"Magnitude and the factors associated with the adherence to Iron Folic Acid Supplementation among pregnant women in Bhopal District"

Dissertation

Submitted to the Faculty of Nursing

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BHOPAL

In partial fulfilment of the requirement for the degree of M.Sc. in Community Health Nursing

By

Ramcharan Bairwa

Enrollment No: 2300074N07P79006

Under the Guidance of

Dr. Naseema Shafqat

Assistant Professor

Nursing College, AIIMS, Bhopal

July, 2025

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BHOPAL

UNDERTAKING

I, ***Ramcharan Bairwa***, an M.Sc. Nursing student enrolled in the batch of 2023–2025 with **Enrollment number 2300074N07P79006**, hereby declare that the data submitted for my M.Sc. Nursing dissertation is my original work. I further confirm that this study was conducted solely by me. The Institute shall bear no responsibility for any disputes or conflicts of interest that may arise from this dissertation at any stage.

Mr. Ramcharan Bairwa

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BHOPAL

CERTIFICATE

This is to certify that the dissertation entitled **"Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District"** is a bonafide and genuine research carried out by **Mr. Ramcharan Bairwa** under our guidance and direct supervision for the award of M.Sc. in Community Health Nursing.

Guide:

Dr. Naseema Shafqat
Assistant Professor
Nursing College, AIIMS, Bhopal

डॉ. नसीमा शफकत/Dr. Naseema Shafqat
सहायक प्राध्यापिका/Assistant Professor
नर्सिंग महाविद्यालय/Nursing College
एम्स भोपाल, मध्य प्रदेश-462020
AIIMS BHOPAL, (M.P.)-462020

Co-Guides:

Mrs. Ranjana Verma
Assistant Professor
Nursing College, AIIMS, Bhopal

रंजना वर्मा / Ranjana Verma
सहायक प्राध्यापिका/Assistant Professor
नर्सिंग महाविद्यालय/Nursing College
एम्स भोपाल, मध्य प्रदेश-462020
AIIMS Bhopal, (M.P.)-462020

Place: Bhopal

Date:

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BHOPAL

CERTIFICATE

This is to certify that the dissertation entitled, **"Magnitude and the factors associated with the adherence to Iron Folic Acid Supplementation among pregnant women in Bhopal District"** is the work carried out by **Mr. Ramcharan Bairwa** in the specialty of Community Health Nursing, under the supervision and guidance of **Dr. Naseema Shafqat (Guide) and Mrs. Ranjana Verma (Co-Guide)** in the speciality of **Community Health Nursing.**

कार्यवाहक प्राचार्या / In-Charge PRINCIPAL
नर्सिंग महाविद्यालय / Nursing College
एम्स भोपाल, मध्य प्रदेश-462020
AIIMS Bhopal, Madhya Pradesh-462020

Dr. Mamta Verma

I/C Principal

Nursing College

AIIMS, Bhopal

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BHOPAL

DECLARATION

I hereby declare that the dissertation entitled, **"Magnitude and the factors associated with the adherence to Iron Folic Acid Supplementation among pregnant women in Bhopal District"** is a bonafide and original work carried out by me under the supervision and guidance of Dr. **Naseema Shafqat (Guide), Assistant Professor, Nursing College, AIIMS Bhopal, and Mrs. Ranjana Verma (Co-Guide), Assistant Professor, Nursing College, AIIMS Bhopal.** To the best of my knowledge, this dissertation or any part thereof has not formed the basis for the award of any degree, fellowship, or similar title to any candidate of any university.

Mr. Ramcharan Bairwa

Place: Bhopal

Date:

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BHOPAL

COPYRIGHT DECLARATION

We hereby declare that **ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BHOPAL,** shall have the rights to preserve, use and disseminate this dissertation in print or electronic format for academic/research purpose.

Mr. Ramcharan Bairwa

Guide:

Dr. Naseema Shafqat
Assistant Professor
Nursing College, AIIMS, Bhopal

डॉ. नसीमा शफकत/Dr. Naseema Shafqat
सहायक प्राध्यापिका/Assistant Professor
नर्सिंग महाविद्यालय/Nursing College
एम्स भोपाल, मध्य प्रदेश-462020
AIIMS BHOPAL, (M.P.)-462020

Co-Guides:

Mrs. Ranjana Verma
Assistant Professor
Nursing College, AIIMS, Bhopal

रंजना वर्मा / Ranjana Verma
सहायक प्राध्यापिका/Assistant Professor
नर्सिंग महाविद्यालय/Nursing College
एम्स भोपाल, मध्य प्रदेश-462020
AIIMS Bhopal, (M.P.)-462020

Place: Bhopal

Date:

PLAGIARISM REPORT

by RAMCHARAN BAIRWA

General metrics

76,870	10,806	506	43 min 13 sec	1 hr 23 min
characters	words	sentences	reading time	speaking time

Score

This text scores better than 90% of all texts checked by Grammarly

Writing Issues

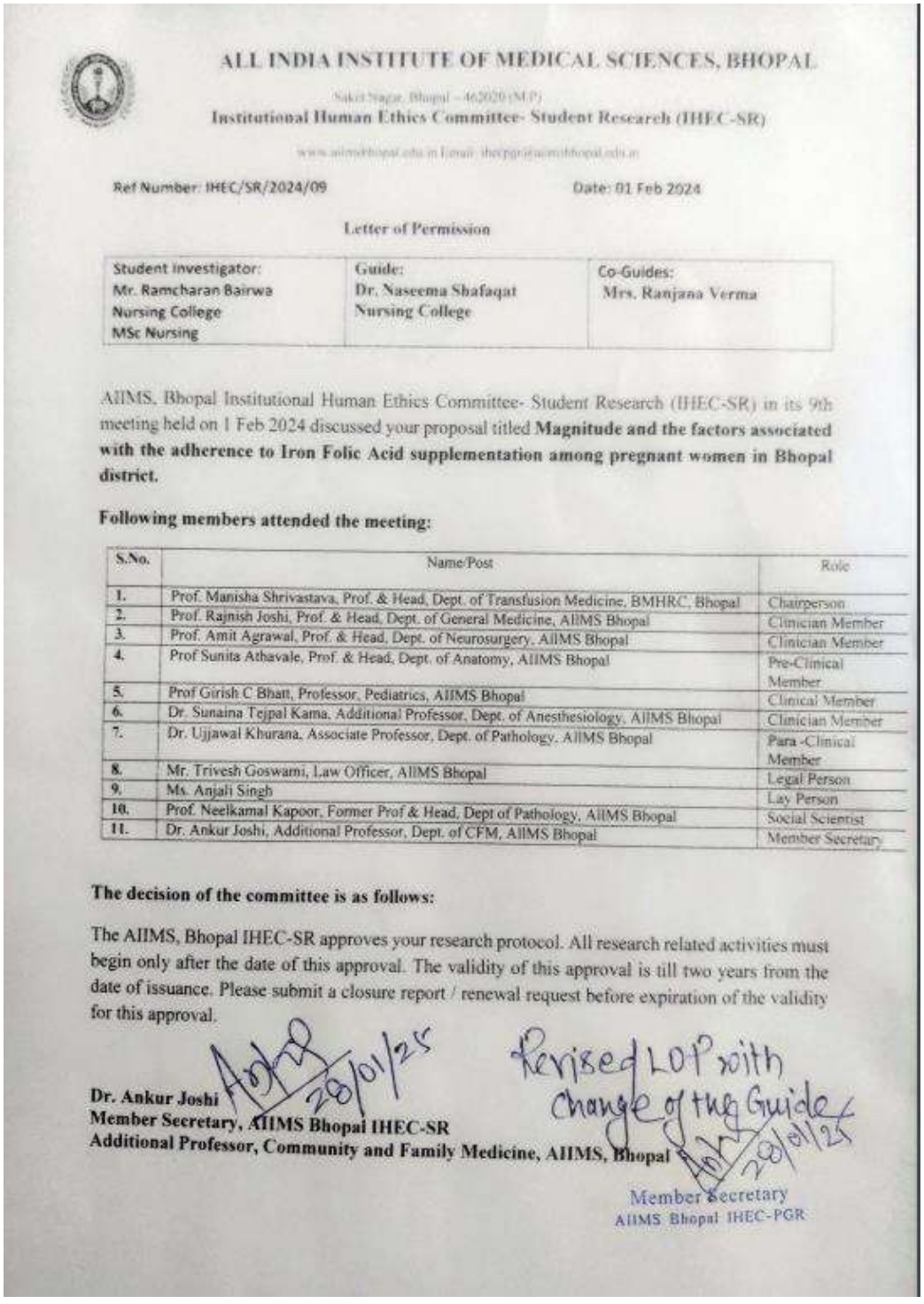
313	84	229
Issues left	Critical	Advanced

Plagiarism

181 sources

6% of your text matches 181 sources on the web or in archives of academic publications

IHEC- SR LETTER OF PERMISSION



ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BHOPAL

Saket Nagar, Bhopal – 462020 (M.P.)

Institutional Human Ethics Committee- Student Research (IHEC-SR)

www.aiimsbhopal.edu.in | Email: ihecpgr@aiimsbhopal.edu.in

Ref Number: IHEC/SR/2024/09 Date: 01 Feb 2024

Letter of Permission

Student Investigator:	Guide:	Co-Guides:
Mr. Ramcharan Bairwa Nursing College MSc Nursing	Dr. Naseema Shafaqat Nursing College	Mrs. Ranjana Verma

AIIMS, Bhopal Institutional Human Ethics Committee- Student Research (IHEC-SR) in its 9th meeting held on 1 Feb 2024 discussed your proposal titled **Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal district.**

Following members attended the meeting:

S.No.	Name/Post	Role
1.	Prof. Manisha Shrivastava, Prof. & Head, Dept. of Transfusion Medicine, BMHRC, Bhopal	Chairperson
2.	Prof. Rajnish Joshi, Prof. & Head, Dept. of General Medicine, AIIMS Bhopal	Clinician Member
3.	Prof. Amit Agrawal, Prof. & Head, Dept. of Neurosurgery, AIIMS Bhopal	Clinician Member
4.	Prof Sunita Athavale, Prof. & Head, Dept. of Anatomy, AIIMS Bhopal	Pre-Clinical Member
5.	Prof Girish C Bhatt, Professor, Pediatrics, AIIMS Bhopal	Clinical Member
6.	Dr. Sunaina Tejpal Kama, Additional Professor, Dept. of Anesthesiology, AIIMS Bhopal	Clinician Member
7.	Dr. Ujjawal Khurana, Associate Professor, Dept. of Pathology, AIIMS Bhopal	Para -Clinical Member
8.	Mr. Trivesh Goswami, Law Officer, AIIMS Bhopal	Legal Person
9.	Ms. Anjali Singh	Lay Person
10.	Prof. Neelkamal Kapoor, Former Prof & Head, Dept of Pathology, AIIMS Bhopal	Social Scientist
11.	Dr. Ankur Joshi, Additional Professor, Dept. of CFM, AIIMS Bhopal	Member Secretary

The decision of the committee is as follows:

The AIIMS, Bhopal IHEC-SR approves your research protocol. All research related activities must begin only after the date of this approval. The validity of this approval is till two years from the date of issuance. Please submit a closure report / renewal request before expiration of the validity for this approval.

29/01/25

Revised LOP with change of the Guide

29/01/25

Dr. Ankur Joshi
Member Secretary, AIIMS Bhopal IHEC-SR
Additional Professor, Community and Family Medicine, AIIMS, Bhopal

Member Secretary
AIIMS Bhopal IHEC-PGR

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

Thank you, God, for pouring insight and endurance upon me during this work, and indeed throughout my life.

Probably the most challenging aspect of a dissertation is drafting an acknowledgement. Months of hard effort, hours of advice, and minutes of illumination must be condensed into a few seconds of reading time. With the help and encouragement of many people, this dissertation has remained on track. It's a pleasure to offer my gratitude to everyone who helped make this study a success in so many ways and made it an amazing experience for me.

My profound appreciation to the **Dr. Shashank Purwar,** Medical Superintendent of AIIMS Bhopal.

At the very onset, I owe **Dr. Mamta Verma**, I/C Principal, Nursing College, AIIMS Bhopal a great debt of gratitude for her unwavering support, insightful advice, encouragement, and assistance in completing my study.

My Guide, **Dr. Naseema Shafqat**, Assistant Professor, Nursing College, AIIMS Bhopal deserves a lot of credit for holding my hand during the journey. Without her direction and encouragement, none of this would have been possible. Her patience, encouragement, and understanding with me as a teacher were outstanding, and I will never forget them. I shall cherish my learning experiences with her for the rest of my life. Her faith in me inspired me to give it my all. I admire her qualities and will strive to emulate her in my professional life.

I'm thankful to my Co-Guide, **Mrs. Ranjana Verma**, Assistant Professor, Nursing College, AIIMS Bhopal for providing timely feedback and helpful comments on my dissertation.

I want to take this time to offer my heartfelt gratitude to all of the faculty members at Nursing College AIIMS Bhopal for their support, helpful advice, and constructive criticism.

I take this opportunity to sincerely acknowledge the cooperation of the participants of in this study who trusted me and provided the necessary data.

I sincerely thank all the experts who have contributed their maximum by providing suggestions during the validation of the tools.

I express my sincere gratitude to **Dr. Rekha Rawat, Dr. Indu Sarana, Dr. Imteyazul Haque, Dr. Lily Podder and Dr. Hansraj Bairwa** for their invaluable guidance, encouragement, and support.

I am deeply grateful to the entire faculty of the Nursing College, AIIMS Bhopal, especially Dr. Maxie Martis, Dr. Anurag Bhai Patidar, Mr. R. Velmurugan, Dr. Rajratan Gupta, Mr. Kumarasamy A.P., and Mrs. Geeta Bhardwaj, for their unwavering support, invaluable feedback, and constant encouragement.

Very special thanks to all my **classmates** for their constant motivation and help in making things easier.

I am very thankful to my great parents my father **Mr. Shyojee Ram Bairwa** and my mother **Mrs. Prabhu Devi** who gave meaning to my life in so many ways. Without them I am nothing. They have appreciated me on my every success and supported me.I am grateful to them for showering their immeasurable love and blessing upon me.

This acknowledgment would be unfulfilled if I do not mention my elder brother Mr. Ramesh Chand Bairwa, and my friends Rakesh Meena, Dinesh Kumar Jangid, Manoj Jaiswal, Raju Regar, Dharmendra Kumawat, Balkrishan Sain, Radhika Rajput, Meena Sharma, Pallavi Rai, Rubi, Nidhi Deshwal, Vishvendra Singh Dagur, Prakash Garhwal, Priyesh Vyas, Amarchand Dayma, Apoorv Nagar, Priya Kumari, K. Leah, Prashant Jain, Deepak & Priya Narwal for giving me constant enthusiasm and psychological support whenever I encountered difficulties.

Last but not the least I would like to pay high regards to several other people who had knowingly and unknowingly helped me in the successful completion of this work.

Ramcharan Bairwa

Date:

Place:

ABSTRACT

ABSTRACT

Introduction: Iron and Folic Acid Supplementation (IFAS) plays a crucial role in preventing iron deficiency anaemia during pregnancy. Despite efforts from the government, adherence to IFAS remains a significant challenge, particularly in regions such as Bhopal, India. This study aims to evaluate the level of adherence to the IFAS regimen and identify the factors influencing adherence among pregnant women in Bhopal.

Methods: A cross-sectional study was conducted among 365 married pregnant women in the Bhopal district, selected via convenient sampling. Data was collected using semi-structured questionnaires and analysed to assess adherence levels and the factors associated with adherence. Adherence was categorised into low, medium, or high, with statistical tests used to explore associations with sociodemographic variables, healthcare access, knowledge, and attitudes toward IFAS. The data was processed using SPSS version 27.

Results: The findings revealed that the majority of participants had low adherence (48.2%), followed by medium adherence (46.3%) and only 5.5% showed high adherence. A significant association was found between the number of antenatal care (ANC) visits and adherence levels ($p = 0.002$), indicating that increased ANC visits led to better adherence. However, no significant relationships were observed between adherence and sociodemographic factors such as age, religion, education, family type, gravida, parity, or history of anaemia ($p > 0.05$). Knowledge of IFAS was not significantly correlated with adherence ($p = 0.192$), although lower adherence was more common among women with limited knowledge. Family encouragement (75.9%) and explanations from healthcare providers (85.8%) were found to be key motivators for adherence.

Conclusion: Adherence to IFAS remains suboptimal among pregnant women in Bhopal, despite the availability of supplements through government health centres. The study highlights the importance of increased ANC visits, family support, and healthcare provider counselling in improving adherence. Strengthening ANC services, promoting family engagement, and implementing targeted awareness campaigns could enhance adherence to IFAS and ultimately improve maternal health outcomes.

Keywords: Iron and Folic Acid Supplementation, Adherence, Antenatal Care, Pregnancy, Maternal Health, Bhopal District.

TABLE OF CONTENTS

S.No.	CONTENT	PAGE NO.
1.	**CHAPTER I INTRODUCTION**	1-11
	Background of the study	1-5
	Need for the study	5,6
	Research problem statement	6
	Research question	6
	Objectives	6
	Operational definitions	7
	Conceptual framework	8-10
	Summary	11
2.	**CHAPTER II REVIEW OF LITERATURE**	**12-29**
3.	**CHAPTER III MATERIALS AND METHODS**	**30-41**
	Research approach	30
	Research design	30
	Research setting	30-31
	Population	31
	Sample	31
	Sampling criteria	31
	Sample size	32
	Sampling technique	32
	Data collection tools/Instruments	33
	Development & description of tool	34-37
	Validity and reliability of the tools	37-38
	Ethical consideration	38
	Pilot study	39

	Procedure of data collection	39
	Plan for data analysis	40
	Summary	41
4.	**CHAPTER IV RESULT**	**42-71**
5.	**CHAPTER V DISCUSSION**	**72-85**
	Major findings of the study	72-80
	Implications	80-82
	Limitations	82
	Recommendations	82-83
	Conclusion	83-84
	Summery	84
6.	**References**	**85-93**

LIST OF TABLES

S. NO.	TITLE	PAGE NO.
1.	Frequency and Percentage Distribution of Sociodemographic Characteristics of Participants	43-44
2.	Frequency and percentage distribution of pregnancy and Health system related characteristics	45-48
3.	Frequency and percentage distribution of Medication related factors.	49-51
4.	Magnitude of adherence to iron folic acid supplementation regimen among pregnant women attending in Bhopal	53
5.	Percentage distribution of knowledge items.	55-56
6.	Percentage distribution of range of knowledge	56-57
7.	Percentage distribution of attitude scale items.	57-59
8.	Percentage distribution of range of attitude	59
9.	Association between sociodemographic characteristics with IFAS regimen among pregnant women in Bhopal district.	60-62
10.	Association between pregnancy and health system related characteristics with IFAS regimen among pregnant women in Bhopal district.	63-65
11.	Association between Medication related factors with IFAS regimen among pregnant women in Bhopal district.	66-68
12.	Association between Knowledge questionnaire with IFAS regimen among pregnant women in Bhopal district.	69
13.	Association between attitude with IFAS regimen among pregnant women in Bhopal district.	70

LIST OF FIGURES

S.No.	TITLE	PAGE NO.
1.	Conceptual framework based on general system model	10
2.	Schematic representation of search strategy	13
3.	Pie chart showing of magnitude of Adherence to IFA	53

LIST OF ANNEXURES

S. NO.	TITLE
1.	Data collection tool- English version.
2.	Data collection tool- Hindi version.
3.	Letter seeking permission for tool validation.
4.	List of experts.
5.	Evaluation criteria for validation of the tool
6.	Certificate of validation
7.	Language validation certificate.
8.	Letter seeking permission to conduct the study.
9.	Permission for using tool in study.
10.	Participant Information sheet (English).
11.	Participant Information sheet (Hindi).
12.	Participant Informed consent form
13.	Information data sheet
14.	Master data sheet

LIST OF SYMBOLS

S.No.	SYMBOLS	EXPANSION
1.	%	Percentage
2.	>	More than
3.	<	Less than
4	≥	More than or Equal to
5.	-	Minus
6.	×	Multiply
7.	+	Plus
8.	=	Equal to

CHAPTER-I

INTRODUCTION

"Anaemia is not just a medical condition; it is a silent epidemic that affects the strength and vitality of women, undermining their ability to lead healthy, fulfilling lives."

Background of the study

Anaemia, particularly iron-deficiency anaemia, is a significant global health concern that affects women, especially during pregnancy. It is widely recognized that anaemia during pregnancy leads to various complications for both the mother and the child, including an increased risk of maternal mortality, preterm births, low birth weight, and impaired fetal development.[1,2] According to the World Health Organization (WHO), anaemia during pregnancy is associated with a higher risk of complications such as early rupture of membranes, maternal fatigue, and heart problems. For the baby, anaemia can result in low birth weight, increased vulnerability to infections, and even neonatal death. Babies born to anaemic mothers are also more likely to experience anaemia themselves, further contributing to the cycle of poor health outcomes.[3,4]

Globally, it is estimated that around 38.2% of pregnant women suffer from anaemia, with iron deficiency being the primary cause of this condition. The problem is particularly prevalent in developing countries, including India, where anaemia among pregnant women remains a major public health challenge.[4] In India, the National Family Health Survey (NFHS-V, 2019–21) reported that 54.3% of pregnant women in rural areas and 45.7% in urban areas are anaemic. The situation is equally concerning in Madhya Pradesh, where the prevalence of anaemia among pregnant women stands at 54.9% in rural areas and 45.1% in urban areas.[5] The persistence of high rates of anaemia despite various public health interventions points to the complexity of the issue and highlights the need for more focused efforts to address the root causes of anaemia among

pregnant women.

Iron and folic acid (IFA) supplementation is one of the most effective strategies to prevent and treat anaemia during pregnancy. Iron is essential for the formation of hemoglobin, which is responsible for carrying oxygen throughout the body, while folic acid plays a critical role in cell division and the prevention of birth defects[6]. In India, the Government has recognized the importance of IFA supplementation and has implemented several programmes to ensure that pregnant women receive these essential nutrients. One of the key initiatives is the Anemia Mukt Bharat (AMB) Programme, which aims to reduce the prevalence of anaemia in the country by promoting daily IFA supplementation among pregnant women, starting from the second trimester and continuing throughout pregnancy.[7]

Despite these efforts, adherence to IFA supplementation remains a significant challenge. According to NFHS-V data, only 58.6% of pregnant women in urban areas of Madhya Pradesh consumed IFA for 100 days or more, with 36.6% following the recommended 180-day duration. In rural areas, the figures are lower, with 49.1% of women taking IFA for 100 days and only 30.3% adhering to the 180-day guideline[5]. This low adherence is a major barrier to reducing the prevalence of anaemia and its associated risks. While IFA supplementation is readily available through government health schemes, the uptake is often limited by a range of factors, both individual and systemic.

Several factors influence adherence to IFA supplementation among pregnant women, with socio-economic, cultural, and healthcare-related factors playing a prominent role. Maternal education is one of the most significant determinants of adherence. Women with higher levels of education are more likely to understand the importance of IFA supplementation and are more likely to follow the recommended dosage[8]. In contrast, women with lower levels of education may lack knowledge

about the benefits of IFA supplementation and may not view it as an essential part of their pregnancy care.

The timing of antenatal care (ANC) registration also impacts adherence. Women who register for ANC later in their pregnancies are less likely to receive the necessary counselling and education on IFA supplementation, which reduces their likelihood of consistent use. Studies have shown that women who receive early ANC care, along with proper counselling, are more likely to adhere to IFA supplementation. Additionally, the history of anaemia, whether during previous pregnancies or the current pregnancy, plays a crucial role in adherence. Women with a history of anaemia are generally more aware of the need for IFA supplementation and may be more likely to comply with the prescribed dosage[9,10].

Access to healthcare services and the availability of IFA supplements are also key factors influencing adherence. In rural and remote areas, where healthcare facilities may be less accessible, pregnant women may face challenges in obtaining IFA supplements. The irregular supply of IFA tablets, particularly in areas with poor infrastructure, further complicates the situation. Furthermore, a lack of counselling and education about the importance of IFA supplementation, along with concerns about the side effects of the tablets, may contribute to non-adherence. Side effects such as nausea, constipation, and gastrointestinal discomfort are common reasons cited by women for discontinuing IFA supplementation. In some cases, these side effects are exacerbated by poor dietary habits, which may further hinder adherence to the supplementation regimen[11,12].

Knowledge gaps regarding anaemia and IFA supplementation also play a role in poor adherence. Many women are not fully aware of the risks associated with anaemia during pregnancy or the potential consequences for both themselves and their babies. This lack of awareness may lead to a

lack of motivation to follow through with the supplementation. Additionally, cultural beliefs and practices can influence a woman's willingness to take IFA supplements. In some communities, there may be a lack of trust in the efficacy of government-supplied supplements, or cultural norms may discourage the use of certain medications during pregnancy. Addressing these cultural barriers is essential for improving adherence[13,14].

The Government of India's AMB programme aims to combat anaemia by ensuring the widespread availability of IFA supplements and providing education to pregnant women about the importance of these supplements. The programme has set ambitious targets to reduce anaemia prevalence by three percentage points annually, with a focus on reaching socially disadvantaged groups and improving healthcare access[7]. Despite these efforts, there remains a gap in understanding the factors that hinder adherence to IFA supplementation, particularly in regions like Bhopal District, where healthcare access and socio-economic conditions vary significantly.

This study seeks to fill this gap by exploring the factors associated with adherence to IFA supplementation among pregnant women in Bhopal District. By examining the magnitude of non-adherence and identifying the key barriers and facilitators, this research will provide valuable insights that can inform public health strategies and interventions. The findings will be instrumental in shaping targeted approaches to improve adherence to IFA supplementation, which in turn will help reduce the burden of anaemia and improve maternal and fetal health outcomes.

While iron and folic acid supplementation is a proven intervention for preventing and treating anaemia during pregnancy, adherence to this essential health measure remains a significant challenge in India, particularly in rural areas. By understanding the factors that influence adherence in Bhopal District, this study aims to contribute to the development of more effective public health policies and interventions, ultimately improving the health of pregnant women and reducing the

incidence of anaemia in the region.

Need for the study

The Government of India guidelines recommend the commencement of IFAS between the 14th and 16th weeks of gestation[15]. Despite these guidelines, adherence to the supplementation regimen remains low among pregnant women, with less than 60% of women in rural areas and only 40% in urban areas adhering to the recommended duration of IFAS during pregnancy[5]. The need for this study is underscored by the significant health risks associated with non-adherence to IFAS. Pregnant women who do not receive adequate iron supplementation are at a higher risk of developing iron-deficiency anaemia, which can lead to maternal haemorrhage, premature rupture of membranes, and decreased work capacity. Addressing this issue requires a comprehensive understanding of the factors influencing adherence to IFAS. Research has shown that socio-economic status, maternal education, access to healthcare, cultural beliefs, and awareness of the importance of supplementation all play significant roles in determining whether pregnant women follow through with the recommended IFA regimen. In particular, peripheral health workers, such as Accredited Social Health Activists (ASHA), Anganwadi Workers (AWW), Auxiliary Nurse Midwives (ANM), and Community Health Officers (CHO), are critical in monitoring adherence to IFAS. These workers are often the first point of contact for pregnant women in rural and underserved areas and can play a pivotal role in ensuring the success of public health initiatives by providing appropriate health education and referrals. Inspite of dedicated health programmes, to combat anaemia adherence remains a major challenge, particularly in rural regions where healthcare access may be limited, and there are gaps in awareness and education about the importance of IFAS. Identifying the factors that influence adherence to IFA supplementation is essential for designing targeted interventions that can address these barriers. By understanding

why women do not adhere to the IFAS regimen, healthcare providers can offer more effective counselling and support to ensure pregnant women receive the full benefits of the supplementation.

This study is particularly important for regions like Bhopal District, where anaemia prevalence is high. Understanding the barriers to IFAS adherence in this specific context will provide valuable insights for healthcare planners and policymakers. These insights can be used to develop targeted strategies to increase adherence, improve maternal health outcomes, and reduce the prevalence of anaemia in pregnant women. This study aims to identify the key factors associated with the low adherence to IFA supplementation among pregnant women in Bhopal District. By addressing these factors, it will contribute to the development of more effective interventions, ensuring better pregnancy outcomes and ultimately reducing the burden of anaemia in the region.

Research Problem Statement

"Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District"

Research Questions

1. What percentage of pregnant women are adherent to Iron-Folic Acid (IFA) supplementation regimen in Bhopal?
2. What factors are associated with IFA adherence among pregnant women in Bhopal District.

Objectives

1. To assess the magnitude of adherence to iron folic acid supplementation regimen among pregnant women in Bhopal.
2. To identify the factors influencing adherence to IFA supplementation among pregnant women in Bhopal.

Operational Definitions

1. **Adherence:** In this study, adherence refers to the intake of Iron Folic Acid (IFA) tablets as prescribed by the healthcare provider. Pregnant women who report consumption of IFA tablets for at least 27 days in a month (representing 90% of the prescribed dosage), and whose reported consumption details match the records on the IFA strip foil and the Medication Adherence Scale will be considered adherent to the IFA regimen[16].
2. **IFA Supplement**: A tablet containing iron and folic acid, irrespective of whether it is supplied by government health programs or private healthcare facilities. The dosage must conform to the prescribed amounts, typically containing 60 mg of elemental iron and 500 mcg of folic acid[15].
3. **Pregnant Women**: In the context of this study, pregnant women refer to individuals who are currently carrying a pregnancy, as confirmed by clinical records and are registered at the Anganwadi centers of Bhopal District.
4. **Magnitude**: Refers to the proportion of pregnant women in Bhopal District who follow the prescribed Iron Folic Acid supplementation regimen as per the healthcare provider's recommendations. This can be quantified as the percentage of pregnant women who consume IFA tablets for the recommended number of days (e.g., 27 days in a month, or 90% of the prescribed regimen) and consistently follow the correct dosage instructions.
5. **Factors associated**: In the context of this study, "factors associated" refers to the various socio-economic, cultural, healthcare-related, and personal elements like knowledge and awareness etc that may act as barriers or facilitators to adherence to Iron Folic Acid (IFA) supplementation among pregnant women.

Conceptual Framework

The conceptual framework for this study is based on Nola Pender's Health Promotion Model (1982, revised 1996), which aims to complement models focused on health protection. This model suggests that by working closely with patients, healthcare providers can help individuals change behaviours to lead a healthier lifestyle (Marriner & Raile, 2005). The model is built around three key areas[3,17]:

1.**Individual Characteristics and Experiences**: This includes predisposing factors that shape a woman's knowledge, attitudes, and health status. These factors, such as awareness about iron and folic acid supplementation, nutrition knowledge, pregnancy history, and access to healthcare services, play a crucial role in determining her understanding of the need for adherence. For example, receiving antenatal education and having access to medical care can improve awareness and the perceived importance of taking supplements.

2.**Behaviour-Specific Cognitions and Affect**: This aspect involves the motivational factors and barriers that affect a woman's intention to follow the prescribed supplementation regimen. Motivational factors, such as support from family members and encouragement from spouses, align with the concept of "Interpersonal Influences" in the Health Promotion Model. Positive social support can help reinforce the importance of adhering to the supplementation schedule. However, barriers like the bitterness of the supplements, side effects, and lack of follow-up support are perceived as obstacles that may prevent consistent use. Additionally, cultural beliefs, misconceptions, and forgetfulness are factors that contribute to non-adherence, highlighting the need for culturally sensitive education and counselling.

3.**Behavioural Outcomes**: The final component refers to the actual adherence or non-adherence to iron and folic acid supplementation. This outcome is shaped by the woman's efforts to manage or overcome any barriers, such as side effects, and her commitment to maintaining consistent use. If motivational factors are lacking or barriers are not addressed, the woman is more likely to stop taking the supplements, which can negatively affect both maternal and fetal health.

In brief, this conceptual framework, rooted in Pender's Health Promotion Model, illustrates how individual characteristics, interpersonal influences, and perceived barriers interact to influence adherence behaviours among pregnant women in India. By understanding these factors, healthcare providers can create targeted interventions to improve adherence and, ultimately, enhance maternal and neonatal health outcomes.

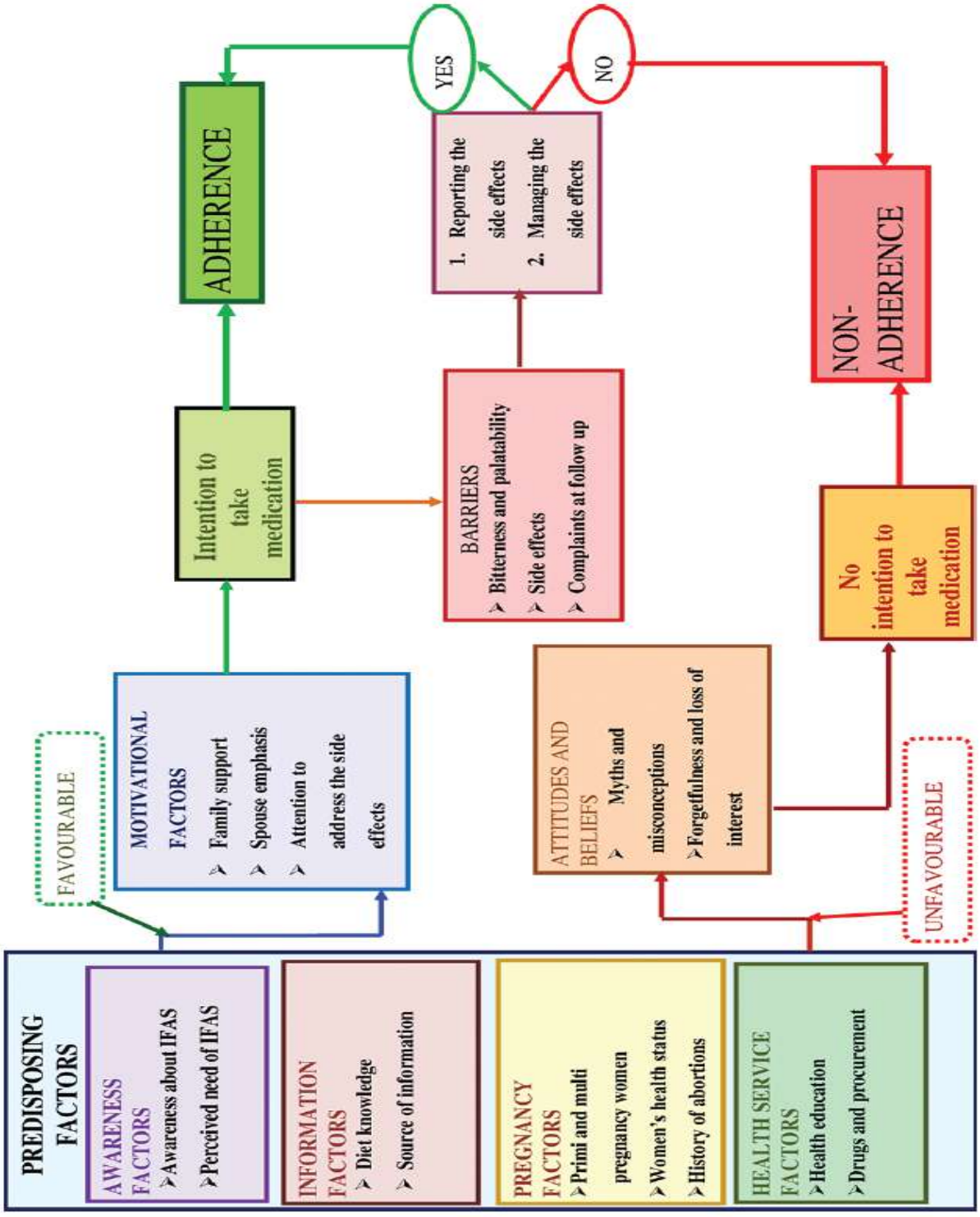


Figure -1 Conceptual Framework Based on Nola Pender's Health Promotion Model

Summary: This chapter provided an overview of the study, including the background, need for the study, research objectives, operational definitions, and the conceptual framework. The framework for this study was based on HPM offers a structured approach to understanding the various interconnected factors influencing the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District. The chapter laid the foundation for the research by defining key concepts and outlining the factors that shape adherence behaviour, highlighting the significance of this study in addressing maternal health concerns.

CHAPTER II

REVIEW OF LITERATURE

A literature review is conducted systematically to gain a deeper understanding of a research problem and to identify gaps in prior studies. These gaps highlight the necessity for new research. The review serves as a basis for generating new knowledge by evaluating existing studies, providing a conceptual framework, and guiding the research design. Its primary purpose is to explore previous work, analyse the methodologies employed by other researchers, and synthesize their findings to enhance understanding in the field.

Search strategy: To gather relevant studies and literature for this research, a systematic search strategy was employed across multiple databases, including PubMed, Scopus, Google Scholar, the WHO Global Health Library, and the Cochrane Library. The search was designed using specific keywords and Medical Subject Headings (MeSH) terms. MeSH terms such as “Iron Deficiency Anemia,” “Folic Acid,” “Pregnancy,” “Maternal Health,” “Adherence,” and “Nutritional Supplements” were used in combination with Boolean operators (“AND,” “OR”) to refine the search results.

The search was conducted using the following combinations of keywords and MeSH terms: (“Iron Folate Supplementation” OR “Iron Folic Acid Supplementation”) AND (“Pregnancy” OR “Pregnant Women”) AND (“Adherence” OR “Compliance”); (“Iron Deficiency Anemia" AND "Pregnancy") AND (“Adherence” OR “Barriers”); “Maternal Health” AND “Iron Supplementation” AND “Factors Influencing Adherence”; “Barriers to IFA Supplementation” AND “Pregnancy.”

The inclusion criteria were studies published in peer-reviewed journals, written in English, and focused on IFA supplementation during pregnancy. Additionally, research conducted in

both developed and developing countries was included, particularly studies that explored barriers to IFA adherence.

Exclusion criteria eliminated studies not related to IFA supplementation, articles published before 2000, non-peer-reviewed sources, and studies conducted in non-pregnant populations.

The search was limited to literature published from 2000 to the present, ensuring the inclusion of the most current and relevant findings.

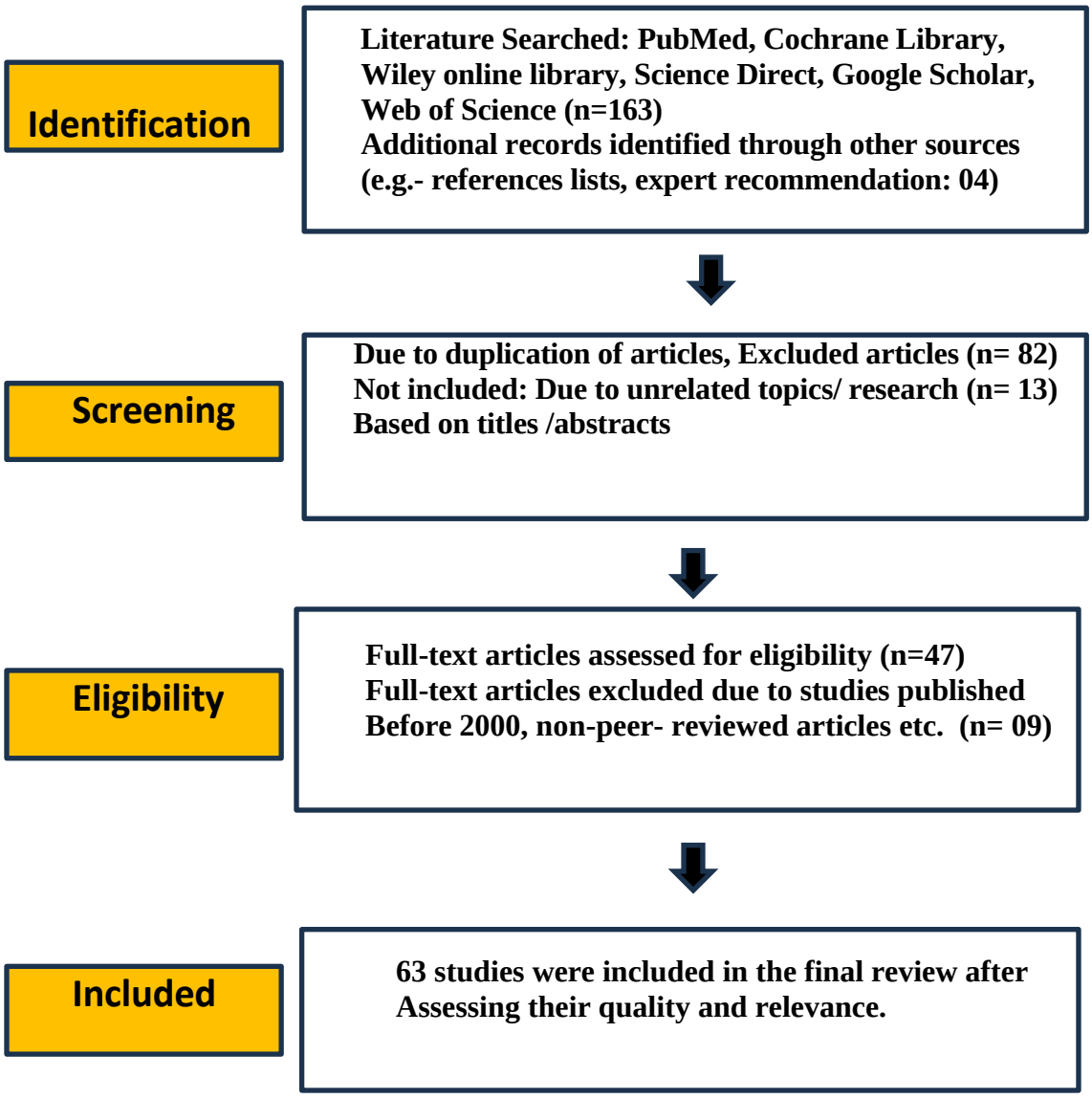

Identification
Literature Searched: PubMed, Cochrane Library, Wiley online library, Science Direct, Google Scholar, Web of Science (n=163)
Additional records identified through other sources (e.g.- references lists, expert recommendation: 04)
Screening
Due to duplication of articles, Excluded articles (n= 82)
Not included: Due to unrelated topics/ research (n= 13)
Based on titles /abstracts
Eligibility
Full-text articles assessed for eligibility (n=47)
Full-text articles excluded due to studies published Before 2000, non-peer- reviewed articles etc. (n= 09)
Included
63 studies were included in the final review after Assessing their quality and relevance.

Figure-2: Schematic representation of search strategy

The literature review is organized under the following headings:

a) Anemia in Pregnancy and its effect on maternal and neonatal outcomes
b) The role of IFA supplementation in reducing anemia
c) Magnitude of Adherence to IFA Supplementation
d) Factors Influencing Adherence to IFA Supplementation
e) Consequences of Non-Adherence to IFA Supplementation
f) Strategies to Enhance Adherence to IFA Supplementation

a). Anemia in Pregnancy and its effect on maternal and neonatal outcomes:

Anemia during pregnancy is a significant public health issue, contributing to maternal morbidity and mortality. According to the World Health Organization (WHO), approximately 40% of pregnant women globally suffer from anemia, with iron deficiency being the most common cause (WHO, 2019)[17]. Anemia in pregnancy is associated with various adverse outcomes, including preterm birth, low birth weight, maternal fatigue, and an increased risk of postpartum hemorrhage (Khan et al., 2017)[18]. In India, the prevalence of anemia among pregnant women is alarmingly high. A national survey by the National Family Health Survey (NFHS-5) in 2019–2020 reported that 52% of pregnant women in India are anemic (MoHFW, 2020). In Madhya Pradesh, particularly, the situation is concerning, with the state recording a higher-than-national average of 58% of pregnant women suffering from anemia (NFHS-5, 2020). In Bhopal, local studies have found that up to 60% of pregnant women are anemic, which is consistent with the trends seen in rural areas of the state (Singh et al., 2020)[19].

The consequences of anemia during pregnancy can be severe, affecting both maternal and fetal health. Studies show that maternal anemia is linked to cognitive impairment in children and an increased likelihood of infant mortality (Black et al., 2013)[20]. In severe cases, anemia can lead to heart failure and other chronic conditions, which complicate the management of pregnant women (Jeejeebhoy, 2015).

b) The Role of IFA Supplementation in Reducing Anemia:

Iron and folic acid supplementation (IFA) during pregnancy is one of the most cost-effective interventions to prevent and treat anemia. IFA supplementation has been shown to significantly reduce the incidence of anemia, improve maternal health outcomes, and prevent birth defects like neural tube defects (Sachdev et al., 2005). The WHO recommends IFA supplementation for all pregnant women, advising them to take one 60 mg dose of iron and 400 mcg of folic acid daily throughout pregnancy (WHO, 2016)[16].

In India, the National Iron Plus Initiative (NIPI) has been implemented to address the high rates of iron deficiency anemia. Despite these efforts, studies have shown that adherence to IFA supplementation remains a challenge. A study in Tamil Nadu found that while 85% of pregnant women received IFA tablets, only 45% adhered to the prescribed regimen (Ramesh et al., 2019)[21]. In Madhya Pradesh, studies show that although IFA supplementation is widely available, only around 50-60% of pregnant women complete the recommended dosage (Goel et al., 2017)[26].

In Bhopal, a study conducted by Patel et al. (2020) revealed that while 70% of pregnant women had access to IFA supplements, adherence rates were low, primarily due to side effects like nausea and gastrointestinal discomfort.

c) Magnitude of Adherence to IFA Supplementation

Adherence to iron and folic acid (IFA) supplementation is vital for the effectiveness of these supplements in preventing anemia during pregnancy. Globally, adherence rates to IFA supplementation vary widely, with numerous studies reporting suboptimal adherence, which hinders the ability of IFA supplementation to mitigate the effects of anemia during pregnancy. In Sub-Saharan Africa, adherence rates range from 50% to 70%, with significant variation depending on the healthcare infrastructure and cultural factors (Wuehler et al., 2013). Similarly, in India, adherence to IFA supplementation has been reported to be low, with rates

around 45% on average (Singh et al., 2020). Urban areas, such as Bhopal, tend to show slightly better adherence compared to rural regions, likely due to better access to healthcare and educational resources[22,23].

Several studies have highlighted the low adherence rates in different regions. An institutional-based cross-sectional study conducted in Ahmed-dhagah district, Hargeisa, Somaliland, in 2022 revealed that only 24% of pregnant women adhered to more than 65% of the recommended IFA supplementation doses (Wuehler et al., 2023). Similarly, a study conducted in Dire Dawa, Ethiopia, reported a relatively higher adherence rate of 71.8% among pregnant women attending antenatal care, although this was still far from optimal (Ahmed et al., 2020). Another study in Simada District, Northwest Ethiopia, found an adherence rate of 67.6%, with factors such as previous preterm deliveries, counseling, and perceived benefits influencing adherence (Mekonnen et al., 2020)[24].

In Ghana, a study conducted in 2021 among pregnant women attending antenatal care found a higher adherence rate of 84%. However, the study also noted that ANC attendance and knowledge about managing side effects of IFA supplementation were important factors for decreasing adherence (Owusu et al., 2021). Similar trends were observed in other regions, including Ethiopia and Uganda, where adherence rates ranged from 43% to 84%, and factors such as socio-economic status, health education, and knowledge about anemia played significant roles in adherence[25].

In India, research into adherence to IFA supplementation has yielded mixed results. A study by Yadav et al. (2018) in Bhopal found that while 65% of pregnant women were prescribed IFA supplements, only 55% reported taking them regularly. This indicates a significant gap in the practical application of IFA supplementation despite its availability. Factors such as socio-economic status, education level, and awareness about anemia were found to be crucial in determining adherence levels. Women from higher socio-economic backgrounds

with more educational resources were more likely to adhere to the prescribed IFA regimen. The varying rates of adherence to IFA supplementation across countries and regions highlight the complexity of the issue. A study conducted in Puducherry, India, found that 63.8% of pregnant women adhered to IFA supplementation[3], which is relatively higher than other regions in India (Srinivasan et al., 2021). In contrast, a study in Uganda revealed that only 22.37% of pregnant women adhered to IFA supplementation (Christine et al., 2021).

Local statistics in Madhya Pradesh also indicate a need for targeted interventions to improve adherence rates. A study by Yadav et al. (2018) in Bhopal found that although 65% of pregnant women were prescribed IFA supplements, only 55% reported taking them regularly, suggesting that adherence remains an issue. This low adherence rate can be attributed to a variety of factors, including forgetfulness, lack of awareness, fear of side effects, and socio-economic barriers. Education and socio-economic status were identified as important predictors of adherence in the local context, as women with higher levels of education and better financial status were more likely to follow the supplementation guidelines.

The studies reviewed here demonstrate that the magnitude of adherence to IFA supplementation varies widely across regions, with factors such as healthcare infrastructure, education, socio-economic status, and knowledge of the benefits of IFA supplementation influencing adherence rates. The need for targeted interventions that address these barriers is clear, particularly in low-resource settings like Madhya Pradesh and Bhopal, where adherence rates remain suboptimal.

In summary, while adherence to IFA supplementation is crucial for preventing anemia during pregnancy, global and national data suggest that adherence rates are often suboptimal. Regional differences, such as those observed in Bhopal and other parts of Madhya Pradesh, highlight the need for targeted strategies to improve adherence. These strategies should address factors such as health education, socio-economic barriers, and awareness of

the side effects of IFA supplements to ensure that pregnant women can fully benefit from IFA supplementation programs.

d). Factors Influencing Adherence to Iron and Folic Acid Supplementation

Adherence to iron and folic acid (IFA) supplementation during pregnancy is essential for preventing anemia and promoting maternal and fetal health. However, various factors influence the degree of adherence to these supplements, which can vary widely across different regions. Key factors include socioeconomic status, educational level, access to healthcare, knowledge of anemia, cultural beliefs, side effects, and support from partners and healthcare providers.

i). Socioeconomic Status and Education

Several studies have shown that women from higher socioeconomic backgrounds are more likely to adhere to IFA supplementation. These women typically have better access to healthcare services and more knowledge about the importance of IFA supplements. In contrast, women from poorer socioeconomic backgrounds often face barriers such as limited access to healthcare, financial constraints, and lack of awareness about the importance of IFA supplementation. For instance, in rural areas of Madhya Pradesh, India, a study by Goel et al. (2017) found that women with lower socioeconomic status and limited healthcare access were less likely to adhere to IFA supplementation due to a lack of awareness and inadequate healthcare infrastructure[26].

Similarly, women with higher levels of education are more likely to adhere to IFA supplementation. A study by Nisar et al. (2014) highlighted the positive correlation between education and adherence, with more educated women being more informed about the benefits of IFA supplements and thus more likely to follow the recommended regimen. Conversely, lower educational levels are associated with lower adherence rates, as women may not fully understand the importance of the supplementation or how to manage side effects effectively.

ii). Access to Healthcare and Antenatal Care Visits

Access to healthcare services plays a crucial role in adherence to IFA supplementation. Pregnant women who regularly attend antenatal care (ANC) visits are more likely to receive the necessary guidance and prescriptions for IFA supplementation. A study in Somaliland (2022) found that women who attended more ANC visits were significantly more likely to adhere to IFA supplementation, with the number of visits being positively associated with adherence. In this study, women who had good knowledge of anemia and received support from their husbands were also more likely to adhere to the supplementation (Ahmed et al., 2022). This emphasizes the importance of ANC in ensuring that women receive not only the necessary supplements but also the information and support they need to adhere to the supplementation regimen[24].

iii). Cultural Beliefs and Partner Support

Cultural beliefs and societal norms also play a significant role in adherence. In many regions, cultural practices may discourage the use of certain medications or supplements during pregnancy. Additionally, some women may face opposition from family members, particularly husbands, regarding the consumption of IFA tablets. The study conducted in Adwa town, Ethiopia, demonstrated that partner support was a significant factor in adherence. Women who received support from their husbands were more likely to adhere to the supplementation regimen, as they were encouraged and reassured about its importance (Fisseha et al., 2019)[27].

Furthermore, cultural beliefs about the efficacy and safety of IFA supplementation can influence whether women take the supplements as prescribed. In some cultures, there may be a belief that taking pills during pregnancy is unnecessary or harmful, which can contribute to non-adherence. Addressing these beliefs through community-based education and involving influential figures such as community leaders and healthcare providers may help improve

adherence rates.

iv) Knowledge of Anemia and IFA Supplements

Knowledge of anemia and the benefits of IFA supplementation is crucial in influencing adherence. Women who are well-informed about the risks of anemia during pregnancy and the benefits of IFA supplementation are more likely to adhere to the regimen. A study in Tigray, Ethiopia, showed that women who had satisfactory knowledge of IFA supplements had significantly higher adherence rates than those with inadequate knowledge (Hailu et al., 2019). This finding underscores the importance of health education campaigns and counseling during ANC visits to ensure that pregnant women understand the critical role of IFA supplementation in preventing anemia and promoting their health and that of their babies[3].

v). Side Effects and Perceived Barriers

One of the most common reasons for non-adherence to IFA supplementation is the experience of side effects, which can include nausea, constipation, and abdominal discomfort. A study by Basu et al. (2016) found that side effects were a significant deterrent to adherence, with many women discontinuing their IFA supplements due to these issues. In Bhopal, India, Patel et al. (2020) found that 30% of women stopped taking IFA tablets because of side effects. These side effects can be particularly problematic if women are not given proper guidance on how to manage them.

Providing clear instructions on how to handle side effects, such as taking supplements with food or at specific times of day, can help reduce discontinuation rates. Women who receive counseling on managing side effects and the importance of continuing IFA supplementation despite minor discomfort are more likely to adhere to the regimen (Ramesh et al., 2019)[13,21].

vi). Forgetfulness and the Burden of Multiple Medications

Forgetfulness is another significant factor contributing to non-adherence, as many pregnant women juggle multiple responsibilities. In some cases, the inconvenience of remembering to

take a daily supplement, along with other medications, can lead to irregular consumption. A study in Sudan (2023) found that forgetfulness was the most common reason for non-adherence, affecting 71% of the women in the study. Additionally, the perceived burden of taking multiple tablets can discourage women from completing their daily regimen. Interventions that reduce the burden of taking multiple medications, such as combined supplements or better packaging to remind women to take their doses, could help address this issue. Simple reminders, whether through mobile health applications, reminder cards, or verbal cues during ANC visits, could also improve adherence.

vii) Healthcare Provider Guidance and Counseling

The role of healthcare providers in promoting adherence cannot be overstated. Women who receive clear and consistent counseling on the importance of IFA supplementation and how to manage potential side effects are more likely to adhere to the regimen. A study in Ghana found that healthcare provider communication was a key factor in promoting adherence to IFA supplementation. Women who received proper guidance and reassurance from healthcare providers regarding the benefits of IFA supplements were more likely to continue taking them as prescribed (Konlan et al., 2020)[28].

In conclusion, multiple factors influence adherence to IFA supplementation during pregnancy, including socioeconomic status, education, access to healthcare, cultural beliefs, knowledge of anemia, side effects, and support from healthcare providers and partners. Addressing these factors through comprehensive interventions, including education, counseling, and improving access to healthcare, could significantly improve adherence rates and reduce the burden of anemia during pregnancy.

E) Consequences of Non-Adherence to IFA Supplementation

Non-adherence to iron and folic acid (IFA) supplementation during pregnancy can result in serious health consequences for both mothers and their infants. The lack of adequate iron

intake during pregnancy is a primary contributor to maternal anaemia, which significantly increases the risk of complications such as preterm birth, low birth weight, and maternal mortality (Black et al., 2013)[20]. Additionally, maternal anemia is linked to impaired cognitive development and a heightened risk of infant mortality, highlighting the importance of IFA supplementation for optimal maternal and child health (Allen, 2005)[29].

i). Maternal Health Risks

Maternal anemia due to insufficient IFA supplementation can have a profound impact on a woman's health. Anemia during pregnancy is associated with fatigue, increased risk of infections, and poor wound healing after delivery. Severe anemia can lead to complications such as hemorrhage during childbirth, which increases the risk of maternal mortality. A study by Mishra et al. (2019) in Bhopal found that women who failed to adhere to IFA supplementation had significantly higher rates of low birth weight and premature delivery, both of which are closely tied to maternal health and well-being. The absence of adequate iron intake can reduce a mother's capacity to handle the physiological stresses of pregnancy, potentially leading to more complicated deliveries and poorer overall health outcomes.

ii). Neonatal and Infant Health Risks

Non-adherence to IFA supplementation does not only affect maternal health but also significantly compromises neonatal outcomes. Maternal anemia increases the likelihood of poor fetal development, resulting in a higher incidence of low birth weight and preterm births. The risk of infant mortality is also higher among children born to anemic mothers. Goel et al. (2017) conducted a study in rural Madhya Pradesh, which revealed that non- adherence to IFA supplementation was linked to poor neonatal outcomes, including higher incidences of anemia in newborns. Newborns who are born to mothers with inadequate iron levels may be born with low iron stores, which can impair their immune system and cognitive development in the early stages of life[30].

iii). Cognitive and Developmental Impacts on Children

The consequences of maternal anemia extend beyond birth outcomes, influencing a child's cognitive and developmental trajectory. Iron is crucial for the development of the brain, and a lack of sufficient iron during pregnancy can lead to long-term impairments in the child's cognitive abilities, motor skills, and overall developmental progress. Studies have shown that children born to anemic mothers are at a higher risk of developmental delays and learning difficulties, which can affect their performance in school and later in life (Allen, 2005). Thus, adherence to IFA supplementation is not only critical for preventing immediate birth-related complications but also for supporting the future health and development of the child[30].

iv) Consequences in Resource-Limited Settings

The consequences of non-adherence to IFA supplementation are particularly severe in resource-limited settings, where healthcare infrastructure may be inadequate, and women often have limited access to prenatal care. In Southern Ethiopia, a cross-sectional study conducted in Wondo District found that only 44.3% of pregnant women adhered to IFA supplementation[31]. Factors such as maternal age, education, and knowledge about anemia were found to be significantly associated with adherence to IFA supplementation (AOR 2.62, 95% CI (1.43, 4.79); AOR 4.40, 95% CI (2.65, 7.30)) (Kebede et al., 2020). This low compliance rate reflects the importance of addressing both maternal education and the knowledge gaps regarding anemia and IFA supplements to reduce the risk of maternal and neonatal complications. Young, uneducated mothers and their husbands, in particular, require targeted interventions to improve adherence to IFA supplementation and reduce the adverse health consequences for both mothers and their children.

v). The Cycle of Adverse Outcomes

Non-adherence to IFA supplementation can create a vicious cycle of health risks. For instance,

a woman who suffers from anemia during pregnancy is at a higher risk of giving birth to a low-birth-weight or premature infant. Such infants are more likely to experience health challenges early in life, including developmental delays, increased vulnerability to infections, and a higher likelihood of being diagnosed with anemia themselves. These children may require additional medical attention, increasing the burden on healthcare systems, particularly in resource-constrained areas.

In conclusion, non-adherence to IFA supplementation poses significant risks to maternal and child health, including complications during pregnancy, poor neonatal outcomes, and long-term developmental challenges for the child. It is crucial to address the barriers to adherence through targeted education, support, and healthcare interventions. Ensuring that women are aware of the importance of IFA supplementation, providing them with adequate healthcare services, and offering guidance on managing side effects are essential steps in improving adherence rates and reducing the health consequences of non-adherence for both mothers and their children.

f). Strategies for Enhancing Adherence to IFA Supplementation

Improving adherence to iron and folic acid (IFA) supplementation during pregnancy requires a comprehensive and multifaceted approach. Key strategies include enhancing education, increasing accessibility, addressing side effects, and simplifying the supplementation regimen. These approaches aim to empower women with the knowledge and support needed to follow their IFA supplementation regimen effectively and consistently.

i). Educational Initiatives

One of the most effective strategies for improving adherence is to raise awareness about the benefits of IFA supplementation. Community-based education programs have proven successful in informing pregnant women about the importance of IFA for both maternal and fetal health (Nisar et al., 2014). Such programs should focus on providing information on the

risks associated with inadequate iron intake, such as maternal anemia, low birth weight, and preterm birth. Education should also cover how IFA supplements can help prevent these risks and promote overall well-being during pregnancy[32].

A study conducted by Ramesh et al. (2019) in Delhi demonstrated that providing women with clear, practical information about managing common side effects—such as taking supplements with food or at bedtime—significantly improved adherence rates by 25%. This highlights the importance of not only informing women about the benefits of IFA but also offering guidance on overcoming barriers related to side effects, which can be a major deterrent to adherence.

ii). Simplifying the Supplementation Regimen

Simplifying the supplementation regimen is another key strategy to improve adherence. Providing single-dose IFA supplements instead of multiple doses per day has been shown to increase adherence (Singh et al., 2020). This approach makes it easier for pregnant women to remember and incorporate IFA supplements into their daily routines. Furthermore, simplifying the regimen reduces the cognitive load on pregnant women and ensures they receive the required daily dose of iron and folic acid[23].

In addition to simplifying dosages, it is also crucial to ensure the availability of IFA supplements in local healthcare facilities and pharmacies. Efforts to make IFA supplements easily accessible, especially in remote or underserved areas, can significantly increase adherence, particularly when women are able to obtain them without facing financial or logistical barriers.

iii). Managing Side Effects

Side effects, such as nausea, constipation, and abdominal discomfort, are among the most common reasons for non-adherence to IFA supplementation (Patel et al., 2020)[33]. Addressing these side effects effectively can lead to a significant improvement in adherence rates.

Counseling pregnant women on how to manage these side effects is critical. For example, taking IFA supplements with food or at bedtime, or using different formulations, can help alleviate some of the discomfort associated with the supplements.

A study conducted in Sagnarigu municipality, Ghana, found that providing women with information on how to manage side effects, alongside promoting early antenatal care (ANC) visits, was associated with increased adherence. The study showed that women who received counseling on managing side effects were more likely to adhere to IFA supplementation (AOR=0.08: 0.021, 0.343). This suggests that effective communication about potential side effects and their management can alleviate concerns and improve adherence[34].

iv). Encouraging Early Antenatal Care Visits

Early initiation of antenatal care (ANC) visits is another important factor in improving adherence to IFA supplementation. A study in Ethiopia found that women who started their ANC follow-up during the first trimester were significantly more likely to adhere to IFA supplementation (AOR=1.87, 95% CI (1.18–3.36)) (Kebede et al., 2021). Early visits allow healthcare providers to educate women about the importance of IFA supplementation and ensure they receive proper counseling on its benefits and potential side effects. Early ANC visits also provide an opportunity for healthcare providers to address any misconceptions or concerns about IFA supplementation, which can help improve adherence rates[10].

v). Targeting Vulnerable Groups

Certain groups of pregnant women are more likely to experience difficulties adhering to IFA supplementation, including those with lower levels of education, younger mothers, and those who face socio-economic challenges. Targeted interventions aimed at these vulnerable groups can be particularly beneficial. For instance, a study conducted in Ethiopia found that women with higher levels of education and those who attended ANC early in their pregnancies were more likely to adhere to IFA supplementation (AOR=4.236, 95% CI (1.35–13.25)) (Kebede et

al., 2021). Promoting education about the importance of IFA supplementation and ensuring early ANC visits could be crucial strategies for improving adherence in these groups[10].

vi). Community Health Workers and Peer Support

In many settings, especially rural areas, community health workers (CHWs) can play a pivotal role in improving adherence to IFA supplementation. By involving CHWs in the distribution of supplements and providing education on the correct usage, these workers can directly address the barriers that prevent adherence. Community-based support systems, including peer support groups, can also help women feel more motivated and less isolated in their efforts to adhere to the supplementation regimen. Improving adherence to IFA supplementation requires a comprehensive approach that involves education, early antenatal care visits, managing side effects, simplifying the supplementation regimen, and targeting vulnerable populations. Strategies such as community-based education, counseling on side effect management, and involving community health workers can help overcome common barriers to adherence. By focusing on these key strategies, healthcare systems can enhance adherence rates, thereby improving maternal and child health outcomes and reducing the risks associated with non-adherence to IFA supplementation**.**

Research Gap Analysis

Current Understanding of IFA Supplementation and Adherence

Iron and folic acid (IFA) supplementation during pregnancy is a well-established intervention for preventing anemia and improving maternal and child health outcomes. Global evidence supports that IFA supplementation significantly reduces maternal anemia and its associated risks, such as low birth weight, preterm birth, and maternal mortality (WHO, 2016). In India, various national programs, including the National Iron Plus Initiative (NIPI), aim to provide IFA supplements to pregnant women to combat the widespread issue of anemia (MoHFW, 2020). Numerous studies have shown that while supplementation is widely available,

adherence remains a significant challenge, with factors such as side effects, lack of awareness, socio-economic barriers, and inadequate healthcare infrastructure contributing to poor compliance (Ramesh et al., 2019; Singh et al., 2020)[23,41].

Studies focusing on the magnitude of adherence to IFA supplementation, especially in rural and semi-urban settings like Bhopal, show suboptimal adherence rates. In Madhya Pradesh, studies indicate that although the distribution of IFA supplements is relatively widespread, only 50-60% of pregnant women complete the recommended dosage (Goel et al., 2017). Further research has explored the factors influencing adherence, including education, socio-economic status, healthcare access, and side effects such as nausea and constipation (Basu et al., 2016; Nisar et al., 2014)[32].

While these studies provide valuable insights into adherence challenges, there is limited understanding of the specific regional, cultural, and socio-economic factors influencing adherence in different Indian states, particularly in Madhya Pradesh and Bhopal. Additionally, the consequences of non-adherence in the local context and the effectiveness of region-specific interventions to improve adherence have not been sufficiently explored.

What This Research Will Add

This research will contribute to the existing body of knowledge by providing a region- specific analysis of IFA supplementation adherence in Madhya Pradesh and Bhopal, addressing gaps in understanding local socio-economic, cultural, and healthcare-related barriers. It will explore the specific consequences of non-adherence in this context, offering insights into the impact of poor compliance on maternal and neonatal health outcomes. Additionally, the study will examine the effectiveness of region-tailored interventions, including community-based education programs and healthcare support systems, to improve adherence. By analyzing the influence of socio-demographic factors and evaluating localized strategies, this research will offer actionable recommendations to enhance adherence to IFA supplementation and

ultimately improve maternal health in resource-constrained settings.

Summary:

This chapter provided a comprehensive review of the literature concerning the magnitude of adherence to iron and folic acid (IFA) supplementation, factors influencing adherence, consequences of non-adherence, and strategies to improve adherence. It highlighted the prevalence of adherence to IFA supplementation and identified key factors such as socioeconomic status, education, access to healthcare, and cultural beliefs that influence adherence rates. The chapter also examined the serious consequences of non-adherence, including maternal anemia, preterm births, low birth weight, and increased risks for both maternal and child health. Finally, it discussed various strategies to improve adherence, including community-based education programs, managing side effects, simplifying the supplementation regimen, and encouraging early antenatal care visits. These strategies are critical for enhancing maternal and child health outcomes and ensuring the effectiveness of IFA supplementation during pregnancy.

CHAPTER-III

MATERIALS AND METHODS

This chapter outlines the research methodology adopted for the study, providing a structured approach to address the research problem systematically. It describes the research design, setting, sampling technique, instrument details, data collection procedure, and the plan for data analysis.

Research Approach

The research approach is crucial for ensuring the validity of the study. Given the nature of the research problem and the study's objectives, a quantitative approach was deemed most appropriate. This approach allows for objective measurement of adherence to Iron Folic Acid (IFA) supplementation among pregnant women and facilitates the collection of numerical data, which can be analysed to identify patterns and correlations, thereby achieving the study's objectives**.**

Research Design

A cross-sectional survey design was chosen for this study. This design is suitable for collecting data at a single point in time, allowing for an examination of the factors associated with adherence to IFA supplementation among pregnant women. The cross-sectional nature of the study helps to explore the prevalence of adherence and the relationships between various factors influencing it, without requiring long-term data collection.

Research Setting

The study was conducted in specific service areas within Bhopal District in Madhya Pradesh. The selected settings included: UPHC Sai Baba Nagar and Civil Dispensary cum Sanjivani Clinic, Berkheda Patani.

These healthcare settings were chosen due to their accessibility to pregnant women receiving antenatal care. The settings are representative of both urban and rural areas within the district, providing a diverse sample of participants. The selection of these areas ensures a broader understanding of adherence patterns across different socio-economic and geographical backgrounds within Bhopal District.

Population:

The population for this study includes pregnant women who are receiving Iron Folic Acid Supplementation (IFAS) during pregnancy.

Sample:

The sample for this study consists of pregnant women who are at or beyond 16 weeks of gestation (as per the Last Menstrual Period (LMP) stated or documented in the ANC card) and have been prescribed IFAS for the past 30 days.

Sampling Criteria

Inclusion Criteria: Pregnant women who met the following criteria were included in the study:

1. At or beyond 16 weeks of gestation (as per the LMP stated or documented in the ANC card) and have been prescribed IFAS for at least the past 30 days[15].
2. Residing at the Berkheda Patani and Sai Baba Nagar UPHC areas and are registered at one of the Anganwadi center.

3. Able to read and speak in Hindi or English.
4. Willing to participate in the study.
5. Available during the time of data collection.

Exclusion Criteria: Pregnant women who had any of the following conditions were excluded from the study:

1. Not registered as an ANC (antenatal case) at an Anganwadi centre.
2. Unable to verbally respond to the questionnaire.

Sample size

The sample size for this study was calculated using the following formula:

$n= z^2\ p*q/d^2$

Where:

z = Standard value for a 95% confidence interval, which is 1.96

p = Prevalence of the population $(0.613)^3$

q = (1 - p) = 0.387

d = Desired margin of error, expressed as a decimal (0.05)

Considering a non-response rate of 10% for some items in the questionnaire, the estimated sample size was adjusted to 365.

Sampling Technique

For this study, a convenience sampling technique was used. This technique was selected because it allows for the inclusion of the most readily available pregnant women in the designated study areas. Convenience sampling is practical and suitable in this context, as it helps to efficiently gather data from participants who are accessible and willing to

participate in the study**.**

Data Collection Tools/Instruments

Data collection is a fundamental aspect of any research, as it provides the necessary information to address the research questions posed by the investigator. The quality and accuracy of the data collected are largely dependent on the tool used for gathering that data.

Development of the Tool

The data collection tool was developed by the researcher to align with the study's objectives, drawing insights from existing literature and ensuring that the tool was directly applicable to the study context. The tool was designed specifically for pregnant women receiving Iron and Folic Acid (IFA) supplementation and included the following steps.

- **Literature Review:** A comprehensive review of existing literature was conducted, drawing on academic sources such as books, national and international journals, and published research papers. The aim of this review was to gather relevant information on the adherence to IFA supplementation among pregnant women, as well as the factors influencing this adherence.
- **Drafting the Research Instrument:** The first draft of the research tool was developed, focusing on questions that could assess adherence to IFA supplementation and identify the factors influencing it. The tool was designed to capture both the level of adherence and the barriers or motivators affecting this adherence.
- **Consultations and Feedback:** The draft tool was reviewed through consultations

with experts in the field, including obstetricians, nurses, and public health specialists. Feedback was also sought from the study's primary guide and co-guides. The suggestions from these consultations were incorporated into the tool to improve its accuracy and relevance. To further validate the tool, the Content Validity Index (CVI) was calculated.

- **Finalizing the Tool:** Based on the feedback and revisions, the final version of the tool was prepared. It was carefully reviewed to ensure that all relevant aspects of IFA adherence were included and that the tool would effectively capture the necessary data for the study.
- **Ethical Approval:** Ethical approval was obtained before data collection began, ensuring that the study followed ethical guidelines and protected the rights and confidentiality of the participants.
- **Description of tool**

  The data collection instruments used in this study include the following: Background Proforma, Medication related factors IFA Adherence Scale (MMAS-8), Knowledge Questionnaire and Attitude Towards IFA Supplementation in Pregnancy

  1)Background Proforma: The background proforma is a self-structured questionnaire having two sections:

  Section 1A: Sociodemographic Characteristics: This section includes seven items on information about the pregnant woman's personal details such as age, marital status, religion, education level of the woman, type of family, monthly income, and place of residence. **(Annexure-1A English and Annexure-2 Hindi**

version)

Section 1B: Pregnancy and health system related characteristics: This section includes 17 items on information regarding the gestational age, Last Menstrual Period (LMP), gravida and parity, history of abortion, most recent Hb (haemoglobin) level, history of anemia, IFAS started in the current pregnancy, the time of ANC visits, Number of ANC visits. Consumption of IFAS after marriage or in previous pregnancy, registration of Pradhan Mantri Matritva Vandana Yojana, beneficiary of the ANC food supply, name of health center, Health facility accessibility, follow-up reminders or support to continue taking IFAS, waiting times at the facility and rate of availability of IFAS. **(Annexure-1B English and Annexure-2 Hindi version)**

Tool 2A: Medication related factors: This section contains 13 items giving details about the IFA supplementation, including the date of the interview, prescription date, number of tablets prescribed, dose, consumption of total tablets, supplier of the tablets, Cost of IFA tablets, any side effect, test of IFA tablets acceptable, challenging to remember to take the tablets daily at the recommendable time, encouragement to take IFA supplements, etc. **(Annexure-2A English and Annexure-2 Hindi version)**

Tool 2B: IFA Adherence Tool: Morisky Medication Adherence Scale (MMAS-8)

For this study, The Morisky Medication Adherence Scale (MMAS-8) was adapted to assess adherence to Iron and Folic Acid Supplementation (IFAS) among pregnant women. The tool consists of eight questions that help determine the level of adherence to the prescribed IFA regimen, with each question answered either "Yes" (0) or "No" (1).

The questions are designed to evaluate the frequency of forgetting to take the supplements, stopping or altering the medication regimen, and difficulties related to adherence.

Scoring and Interpretation: To calculate the total score, add up all the points from the eight questions. The total score can range from 0 **to 8**.

High Adherence: Score = 8 (The patient shows excellent adherence to prescribed medications.)

Medium Adherence: Score = 6-7 (The patient has minor issues with adherence, which may affect treatment outcomes.)

Low Adherence: Score = <6 (The patient has significant non-adherence, requiring interventions such as counselling or medication management support.) **(Annexure-2B English and Annexure-2 Hindi version)**

Tool 3A. Knowledge Questionnaire: This 10 items questionnaire assesses the level of knowledge about IFA supplementation and anemia during pregnancy. The tool consists of multiple-choice questions (MCQs), with each correct answer scored as 1, and incorrect or unanswered questions scored as 0. The scoring system categorises knowledge levels as follows:

- 0-33%: Poor
- 33-67%: Average
- >67%: Good **(Annexure-3A English and Annexure-2 Hindi version)**

Tool 3B. Attitude Towards IFA Supplementation in Pregnancy: This tool includes 10 items that assess attitudes towards IFA supplementation during pregnancy. Each item is rated on a 5-point Likert scale as strongly agree/ agree/ neither agree nor disagree/ disagree/strongly disagree. The total score ranged from 10 to 50, with:

-A score 10-20 considered a Negative attitude.

-A score 21-35 considered a Neutral Attitude

-A score >36 Considered a positive attitude.

(Annexure-3B English and Annexure-2 Hindi version)

Validity and Reliability of the Tools:

Validity

Validity assessment involved establishing both face and content validity. Face validity was determined through discussions with the guide and co-guide. On the other hand, content validity was established using the Scale Content Validity Index (SCVI) based on the average method and based on the universal agreement (UA) method**.** The background proforma -a self-structured tool, were developed after reviewing relevant literature and reviewed by a panel of ten experts in fields such as Nursing, Community Medicine, Obstetrics & Gynaecology, and Community Health Nursing. Expert feedback was collected to assess the relevance of each item. (**Annexure-5,6,7)** Additionally, the tool was translated into Hindi and then back-translated to English by a bilingual expert to ensure linguistic accuracy (Annexure-9)

Based on the validators' suggestions, modifications were made and the tool was finalized with the consultation with the guide and co-guide. The Scale Content Validity Index (SCVI) for the final tool is as follows: Scale CVI (Based on average method) = 0.98 and

Scale CVI (Based on universal agreement (UA)method) = 0.99 for the. For the Clinical Profile, the Scale CVI (Based on the average method) is 0.99, and the Scale CVI (Based on the UA method) is 0.92. Section II-MMAS-8 scale is a standardized tool with established validity **Cronbach Alpha value of .83**.[35]

Reliability

The reliability of the tools was assessed using a sample of 40 pregnant women from the Civil Dispensary cum Sanjivani Clinic in Berkheda Patani and the Urban Primary Health Centre (UPHC) Sai Baba Nagar. Cronbach's alpha was applied to measure the reliability of the tools, yielding the following results: the IFA Adherence Scale had a Cronbach's alpha of 0.771, indicating acceptable reliability; the Knowledge Questionnaire showed a Cronbach's alpha of 0.925, reflecting very good reliability; and the Attitude Towards IFA Supplementation in Pregnancy scored a Cronbach's alpha of 0.924, also indicating very good reliability. These results demonstrate that the tools are reliable and can provide consistent and accurate data for the study.

Ethical consideration

Ethical approval for the study was granted by the Institutional Human Ethical Committee-Student Research at AIIMS Bhopal (Ref No.: IHEC-SR/2024/09, dated 1st February 2024). Permission to conduct the study was obtained from the Medical Officer In-charges (Annexure-10), and consent for using the research tools was secured from the respective authors (Annexure-11). An information sheet detailing the study was prepared in both English (Annexure-12) and Hindi (Annexure-13), explained to all participants, and provided to them. Informed consent was obtained from all participants (Annexure-14).

The privacy, anonymity, and confidentiality of the data were ensured, with the questionnaires securely stored and accessible only to the researchers**.**

Pilot Study

Ater obtaining ethical approval the pilot study was conducted among 40 participants representing 10% of the intended sample size from 13th August 2024 to 18th August 2024 at the UPHC Sai Baba Nagar and the Civil Dispensary cum Sanjivani Clinic in Berkheda Patani, Bhopal. The aim was to assess the feasibility of the main study. It was done adhering to the same objectives, data collection procedures, and analysis techniques outlined in the Letter of Permission (LOP)for the main study. The time taken by pregnant women to respond to the questionnaires averaged 25-30 minutes. The pilot study was instrumental in evaluating the feasibility of the larger study and identifying any potential challenges. Overall, it was found to be feasible, confirming that the main study could proceed as planned.

Procedure of data collection

The main investigation aimed to achieve the objectives outlined in the current study. After obtaining ethical clearance and necessary permissions from relevant authorities, data collection commenced from 13th August 2024 to 18th August 2024. All pregnant women meeting the inclusion and exclusion criteria were enrolled. Participants were thoroughly informed about the study, including its objectives, potential benefits, and any risks involved. Informed written consent was obtained from all participants. Recruitment took place on a daily basis at the UPHC Sai Baba Nagar and Civil Dispensary cum Sanjivani Clinic, with 20-30 participants enrolled per day.

Data collection involved conducting one-on-one interviews, where participants were asked to provide socio-demographic and clinical information, and complete the IFA Adherence Scale, along with attitude and knowledge questionnaires.

Each session lasted approximately 25-30 minutes, during which the participants were asked to present their prescribed IFA strip. The IFA Adherence Scale items were administered by the interviewer, followed by the attitude and knowledge questionnaires, which were collected during the same visit.

Plan for data analysis

The data analysis plan for the IFA adherence study involved entering the collected data into SPSS software (version 27)[36] and preparing a master sheet for analysis. Descriptive and inferential statistical methods were employed to analyse the data in accordance with the study's objectives. Descriptive statistics, including frequencies and percentages, were used to summarize the socio-demographic characteristics of the participants. The normality of the data was assessed using the Kolmogorov-Smirnov test. For the inferential analysis, Chi-square and Fisher's exact tests were applied to examine the associations between adherence to the Iron and Folic Acid Supplementation (IFAS) regimen and various socio-demographic and clinical variables among pregnant women in Bhopal. The analysis aimed to provide a comprehensive understanding of the factors influencing IFA adherence and the impact of different interventions. The results from these tests were used to determine correlations, assess the effectiveness of the intervention, and examine the relationships between demographic factors and adherence patterns.

This plan ensures a thorough data analysis, allowing for meaningful interpretation and

drawing conclusions that align with the study's objectives.

Summary

This chapter provided a comprehensive overview of the research methodology, outlining the approach, design, setting, and population involved in the study. It detailed the sampling technique used for participant selection and the development of the research tool, emphasizing its validity and reliability. A description of the tool was provided, along with insights into the pilot study conducted to assess the feasibility of the study procedures. The data collection process was explained step-by-step, ensuring clarity in the methods employed to gather data. Lastly, the plan for data analysis was outlined, highlighting the statistical methods that would be used to interpret the data in line with the study's objectives. This chapter established the methodological framework for the study, ensuring that the research process is rigorous and well-structured.

CHAPTER-IV

RESULT

This chapter presents the findings of the study on the magnitude of adherence to Iron Folic Acid (IFA) supplementation among pregnant women in Bhopal District. The results are analyzed in relation to the various factors that may influence adherence, including demographic, socio-economic, and healthcare-related variables. The chapter also discusses the statistical significance of the data, highlighting trends and patterns that emerged from the analysis.

Organization of Results: The findings of the study are organised under the following headings:

Section I: **Participant Characteristics:** This section outlines the sociodemographic and health-related characteristics of the study participants, including age, education, marital status, and pregnancy-related factors.

Section II: Medication-Related Factors and Adherence to IFA Supplementation

This section presents the findings on the level of adherence to Iron Folic Acid supplementation among pregnant women in the study.

Section III: Knowledge and attitude related to IFA Supplementation: This section examines the participants' understanding of the benefits, importance, and potential side effects of IFA supplements, as well as their overall attitude towards taking them.

Section IV: Factors Influencing Adherence to IFA Supplementation

This section explores the various factors that influence adherence to IFA supplementation, including sociodemographic variables, education, healthcare access, and cultural beliefs

SECTION I: PARTICIPANT CHARACTERISTICS.

Section 1A: Sociodemographic variables:

This section summarizes the frequency and percentage distribution of key sociodemographic information's including age, education level, occupation, and family size, which are essential for interpreting the factors influencing adherence to IFA supplement

Table 1: Frequency and Percentage Distribution of Sociodemographic Characteristics of Participants (N=365)

S.No.	Sociodemographic Variables		Frequency	Percentage
1.	Age (Years)	a). 18-23 Years	137	37.5%
		b). 24-29 Years	181	49.6%
		c). 30-35 Years	46	12.6%
		d). >35 Years	1	0.3%
2.	Marital Status	a). Married	365	100%
		b). Unmarried	**0**	-
		c). Divorced	**0**	-
		d). Separated/Marital Discord	**0**	-
3.	Religion	a). Hindu	269	73.7%
		b). Muslim	92	25.2%
		c). Christian	0	0
		d). Others (Jain)	4	1.1%
4.	Educational Status	a). Can't read & write	2	0.5%
		b). Read & Write Only (Primary Education 1-5)	15	4.1%
		c). Secondary Education (6-10)	85	23.2%
		d). Higher Education (11-12)	234	63.9%
		e). Graduate	29	7.9%

		f). Post-Graduate & above	0	
5.	Type of Family	a). Nuclear Family (Spouse, Children)	169	46.3%
		b). Joint family	189	51.8%
		c). Extended Family	7	1.9%
6.	Type of Residence	a). Maternal Residence	5	1.4%
		b). Husband Residence	257	70.2%
		c). Own Residence	0	
		d). Others (Rented)	103	28.1%
7.	Socioeconomic status (Modified Kuppuswamy)	a). Upper(I)	0	
		b). Upper Middle (II)	7	1.9%
		c). Lower Middle (III)	27	7.4%
		d). Upper Lower (IV)	207	56.7%
		e). Lower (V)	124	34%

The table presents the sociodemographic characteristics of the 365 participants in the study. The majority (49.6%) were aged 24-29 years, followed by 37.5% aged 18-23 years. Only a small percentage were aged 30-35 years (12.6%), and just 0.3% were older than 35 years. All participants were married, with no unmarried, divorced, or separated individuals in the sample. In terms of religion, most participants identified as Hindu (73.7%), followed by Muslim (25.2%), and a small percentage identified as Jain (1.1%). Regarding education, the majority had higher education (63.9%), followed by secondary education (23.2%), while only 0.5% were illiterate. The family structure showed that most participants lived in joint families (51.8%), followed by nuclear families (46.3%). In terms of residence, the majority lived in their husband's residence (70.2%), with 28.1% in rented accommodations. Finally,

socioeconomic status revealed that most participants belonged to the "Upper Lower" category (56.7%), followed by "Lower" (34%) and a small proportion in the "Upper Middle" category (1.9%).

Section 1B: Pregnancy and Health System Related Characteristics

This section presents key pregnancy-related and health system factors that may influence adherence to Iron Folic Acid (IFA) supplementation among the study participants. These characteristics include the number of pregnancies, antenatal care visits, and access to healthcare services, which are essential in understanding the broader context of maternal health and supplementation practices.

The table below provides an overview. Regarding gestational age, the majority of participants were in the 24-28 weeks range (36.2%), followed by those in the 32-36 weeks range (24.1%). A smaller proportion were in the 16-20 weeks (7.1%) and 28-32 weeks (9%) categories, while 23.6% were in the 20-24 weeks range. In terms of gravida, most participants were multigravida (52.6%), followed by primigravida (42.5%), and a small number were grand multigravida (4.9%).

Table2; Frequency and Percentage Distribution of Pregnancy-Related and Health System Characteristics (N=365)

S.No.	Pregnancy & Health System related characteristics	Option	Frequency	Percentage
1.	Gestational Age	a). 16-20 weeks GA	26	7.1%
		b). 20-24 weeks GA	86	23.6%
		c). 24-28 weeks GA	132	36.2%
		d). 28-32 weeks GA	33	9.0%
		e). >32 weeks GA	88	24.1%
2.	Gravida	a). Primigravida	155	42.5%
		b). Multigravida	192	52.6%
		c). Grand multigravida	18	4.9%

3.	Parity	a). Nulliparity	34	9.3%
		b). Primiparity	121	33.7%
		c). Multiparity	204	55.3%
		d). Grandmultiparity	06	1.6%
4.	H/o Abortion	a). Yes	69	18.8%
		b). No	296	81.1%
5.	H/o Anemia	a). Yes	15	4.1%
		b). No	350	95.1%
6.	Most recent Hb level in current pregnancy	a). 10-11gm/dl	19	5.2%
		b). 11-12 gm/dl	325	89%
		c). >12 gm/dl	21	5.8%
7.	IFAS started	a). < 8 weeks GA	0	
		b). 8-16 weeks GA	0	
		c). 16-24 weeks GA	354	97%
		d). > 24 weeks GA	11	3%
8.	Time of ANC Registration	a). <8 weeks	0	
		b). 8-16 weeks GA	24	6.6%
		c). 16-24 weeks GA	331	90.7%
		d). 24-32 weeks GA	10	2.7%
		e) > 32 weeks GA	0	
9.	Total No. of ANC Visits	a). 01	145	39.7%
		b). 02	42	11.5%
		c). 03	164	44.9%
		d). 04	13	3.6%
		e). 05	1	0.3%
10.	IFA consumption previous pregnancy or before marriage	a). Yes	356	97.5%
		b). No	9	2.4%
11.	PMMVY	a). Yes	336	92.1%
		b). No	29	7.9%
12.	ANC Food Supply	a). Yes	348	95.3%
		b). No	17	4.7%
13.	Name of Health Centre	a). Saibaba Nagar	239	65.5%
		b). Berkheda Patani	126	34.2%
14.	Health care facility is Accessible to IFAS for You	a). Yes	341	93.4%
		b). No	24	6.6%
15.	Follow up of reminders	a). Yes	278	76.2%
		b). No	87	23.8%
16.	Long waiting times at facility	a). Yes	321	87.9%
		b). No	44	12.1%
17.	Availability of IFA	a). Easily Available	340	93.2%

		b). Sometimes available	3	0.3%
		c). Not available	18	4.9%
		d). Available but not of good quality	4	1.1%

55.3% were multiparous, 33.7% were primiparous, and 9.3% were nulliparous, with only 1.6% being grand multiparous. A history of abortion was reported by 18.8% of participants, while 81.1% had no history of abortion. Regarding history of anaemia, only 4.1% reported a history, and the majority (95.1%) did not. Most participants had a haemoglobin level between 11-12 gm/dl (89%), with a smaller proportion having levels greater than 12 gm/dl (5.8%) or between 10-11 gm/dl (5.2%).

The initiation of IFA supplementation largely began between 16-24 weeks of gestation (97%), with only 3% starting after 24 weeks. Antenatal care (ANC) registration occurred primarily between 16-24 weeks (90.7%), with minimal registration before 16 weeks. The majority of participants had 1-3 ANC visits (84.1%), with a smaller number attending 4 or more visits. Most women had previously consumed IFA either during a prior pregnancy or before marriage (97.5%). Regarding health system access, 92.1% were beneficiaries of the PMMVY scheme, and 95.3% received ANC food supply. A high percentage (93.4%) reported that healthcare facilities were accessible for IFA supplementation. Additionally, 76.2% received follow-up reminders for IFA consumption. Long waiting times at facilities were a concern for 87.9% of participants. Regarding the availability of IFA, 93.2% reported that it was easily available, though 4.9% faced occasional unavailability, and a small number (1.1%) reported issues with quality. These results highlight the high level of access to healthcare and IFA supplementation, as well as some challenges, such as long waiting times at healthcare facilities, which may influence adherence.

SECTION II: MEDICATION-RELATED FACTORS AND ADHERENCE TO IFA SUPPLEMENTATION

This section provides an analysis of the medication-related factors which may influence Iron Folic Acid (IFA) supplementation adherence, as well as the overall magnitude of adherence among pregnant women in Bhopal.

Table 3; Frequency and Percentage Distribution of Medication-Related Factors(N=365)

S.No.	Medication related Variables		Frequency	Percentage
1.	Source of IFA Tablets	a). Govt Health Center	356	97.5%
		b). Private Health care provider	09	2.5%
		c). Local Pharmacies		
		d). Community Health workers		
		e). others		
2.	Payment for IFA Supplements	a). Yes, Affordable	9	2.5%
		b). Yes, not affordable	356	97.5%
		c). No, free of cost	0	
3.	Experience of Side Effects	a). Yes	18	4.9%
		b). No	347	95.1%
4.	Acceptability of IFA Supplement Taste	a). Yes	334	0.5%
		b). No	31	4.1%
5.	Source of encouragement to	a). Family Members	310	84.9%

	take IFA Supplements	b). Health Care Providers	46	12.6%
		c). Friends or peers	0	
		d). No one	9	2.5%
		e). Others	0	
6.	Regularity of IFA Supplement Intake	a). Yes	356	97.5%
		b). No	9	2.5%
		c). May be		
7.	Explanation of benefits and side effects of IFA	a). Yes, a Health care Provider explained	313	85.8%
		b). Yes, family or friends explained	45	12.3%
		c). No, no one has explained	7	1.9%
8.	Intent to Continue IFA Supplementation	a). Yes	301	82.5%
		b). No	4	1.1%
		c). Not sure	60	16.4%
9.	Motivation to Continue IFA Supplementation	a). More information about the benefits	63	17.3%
		b). Fewer side effects	4	1.1%
		c). Encouragement from family members	277	75.9%
		d). Regular reminders from healthcare providers	18	4.9%

		e). Others	3	0.8%
10.	Willingness to Recommend IFA to Others	a). Yes	284	77.8%
		b). No	9	2.5%
		c). Not sure	72	19.7%

The data reveals that the vast majority of participants (97.5%) obtained IFA tablets from government health centers, with a small percentage (2.5%) sourcing them from private healthcare providers. Regarding affordability, 97.5% of participants found the supplements unaffordable, while none received them free of cost. Most women (95.1%) did not experience any side effects from the supplements, and 91.5% found the taste acceptable. Family members were the primary source of encouragement for 84.9% of participants to take IFA, while 12.6% were encouraged by healthcare providers. A high proportion (97.5%) reported regular intake of IFA supplements, and 85.8% received explanations from healthcare providers about the benefits and side effects. When asked about future adherence, 82.5% planned to continue taking IFA supplements, with the main motivation being encouragement from family (75.9%). Lastly, 77.8% of participants expressed a willingness to recommend IFA supplementation to other pregnant women, highlighting positive community support.

Magnitude of Adherence to IFA Supplementation Regimen: The magnitude of adherence to the Iron Folic Acid (IFA) supplementation regimen is a crucial aspect of this study, as it directly influences the effectiveness of IFA in preventing iron deficiency anemia during pregnancy. This section presents the distribution of adherence levels among pregnant women in Bhopal, highlighting the proportion of participants who consistently followed the IFA supplementation recommendations, as

well as those with lower adherence.

Understanding the extent of adherence provides valuable insights into the factors influencing the proper utilization of IFA supplements in this population.

Table 4: Magnitude of Adherence to IFA Supplementation regimen among pregnant women (N=365)

S.No.	Level of Adherence	Frequency	Percentage
1.	High Adherence	20	5.5%
2.	Medium Adherence	169	46.3%
3.	Low Adherence	176	48.2%

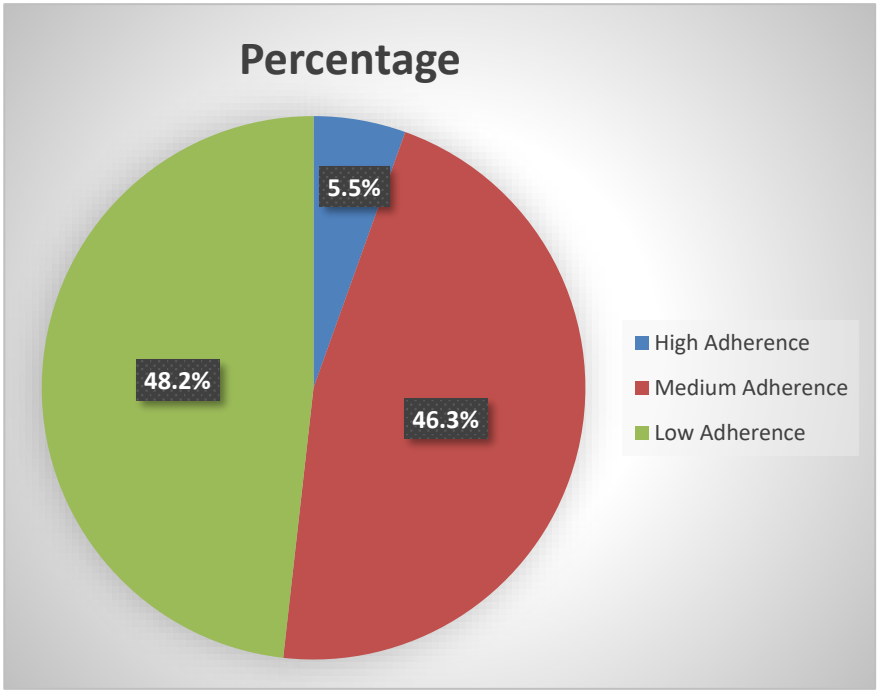


Figure-3; Pie diagram on Magnitude of Adherence to IFA Supplementation Regimen(N=365)

The above figure on adherence to the IFA supplementation regimen depicts that a significant proportion of participants (48.2%) exhibited low adherence, indicating that

nearly half of the pregnant women in the study were not consistently following the recommended supplementation regimen. A smaller percentage (46.3%) demonstrated medium adherence, suggesting that while they took the supplements periodically, their adherence was not optimal. Only 5.5% of participants displayed high adherence, consistently following the IFA supplementation guidelines. These findings highlight a gap in adherence to the regimen, suggesting the need for improved strategies to promote consistent IFA use among pregnant women.

SECTION III: KNOWLEDGE AND ATTITUDES OF PREGNANT WOMEN REGARDING IRON FOLIC ACID (IFA) SUPPLEMENTATION.

This section explores the participants' understanding of the benefits, importance, and potential side effects of IFA supplements, as well as their overall attitude towards taking them. Understanding these factors is essential for identifying barriers and motivators that influence adherence to IFA supplementation, ultimately helping to improve maternal health outcomes.

Table 5: Percentage distribution of knowledge items. N= 365

S.No.	Knowledge Question	Option A	Option B	Option C	Option D
1.	What does IFA stand for?	**91**	**4.9**	**3.0**	**1.1**
2.	At what stage of pregnancy should IFA supplementation ideally begin?	**6.3**	**63.8**	**25.2**	**4.7**
3.	How often should a pregnant woman take IFA supplements?	**76.4**	**18.4**	**1.1**	**4.1**
4.	How long should a pregnant woman continue taking IFA supplements?	**57.8**	**3.0**	**36.7**	**2.5**
5.	What is the main benefit of IFA supplementation during pregnancy?	**4.1**	**35.6**	**4.4**	**55.9**
6	How does IFA supplementation help the baby during pregnancy?	**6.8**	**46.0**	**6.0**	**41.1**
7.	Which of these help the body absorb iron better?	**37.5**	**2.2**	**3.6**	**56.7**
8.	Which foods should not be consumed with IFA tablets?	**87.4**	**1.1**	**8.5**	**3.0**

9.	What side effects may a pregnant woman experience after taking IFA tablets?	**1.1**	**86.6**	**1.9**	**10.4**
10.	What should a pregnant woman do if she experiences side effects from IFA supplements?	**5.2**	**5.5**	**49.9**	**39.5**

Table reveals that most people know the basics about IFA, like what it is (91%), how often to take it (76.4%), and its side effects (86.6%). However, some are unsure about how long to take it (57.8%) and what helps iron absorption (56.7%). Many need more awareness about how IFA helps the baby (46.0%) and what to do if they have side effects (49.9%), so more education is needed.

Table 6: Percentage distribution of range of knowledge

S.No.	**Range of knowledge**	**Frequency**	**Percentage**
1.	Poor Knowledge	152	41.64%
2.	Average Knowledge	150	41.09%
3.	Good Knowledge	63	17.26%

The distribution of participants across these categories is as follows:

Poor Knowledge (0-33): 152 participants (41.64%) had poor knowledge about IFAS.

Average Knowledge (34-67): 150 participants (41.09%) fell into the average knowledge category.

Good Knowledge (>67): Only 63 participants (17.26%) demonstrated good knowledge about IFAS.

Table 7: Percentage distribution of attitude scale items.

S. No.	Instruction	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
1.	I believe that the IFA supplied by Government through AWW/ANM/ASHA is of best quality.	**0.3**	**4.9**	**12.6**	**49.3**	**32.9**
2.	I believe that the IFAS is required in pregnancy for better outcomes in both mother and Baby	**15.9**	**7.9**	**19.7**	**41.6**	**14.8**
3.	I believe that IFAS should be prescribed only to anaemic women.	**12.9**	**42.2**	**16.4**	**14.8**	**13.7**
4.	I believe that taking iron rich food is far better than taking IFA tablet.	**28.8**	**47.9**	**4.9**	**17.5**	**0.8**
5.	I believe that IFAS does more harm than benefit to the mother and baby	**14.2**	**47.7**	**5.8**	**25.8**	**6.6**
6	I believe that taking IFAs will help me recover from the blood loss	**0.3**	**37.3**	**22.7**	**38.6**	**1.1**

	during delivery.					
7.	I believe that taking IFAs will lead to darker skin colour of the baby	**13.7**	**43.3**	**18.4**	**24.1**	**0.5**
8.	I believe that taking IFAs will improve my work capacity.	**6.6**	**34.0**	**13.2**	**41.4**	**4.9**
9.	I believe pregnancy is a natural phenomenon and additional supplements of any drug is not necessary.	**0.5**	**40.8**	**20.3**	**25.2**	**13.2**
10.	I believe that Taking IFAs will lead to excessive weight gain in pregnancy ultimately leading to operative delivery	**10.4**	**15.3**	**49.9**	**23.3**	**1.1**

The results show that most people do not trust government-supplied IFA (82.2% disagree). There are mixed opinions about whether IFA is needed during pregnancy, with 41.6% thinking it is not important. Many wrongly believe that IFA should only be given to anemic women (42.2%) and that eating iron-rich food is better than taking tablets (76.7%). There is a lot of misinformation, as 57% think IFA is harmful and 43.3% believe it darkens the baby's skin, showing the need for better education on IFA benefits.

Table 8: Percentage distribution of range of attitude (n=365)

S.No.	Range of Attitude	Frequency	Percentage
1.	Negative Attitude	0	Constant
2.	Neutral Attitude	0	
3.	Positive attitude	365	

Positive Attitude: All 365 participants (100%) demonstrated a positive attitude towards IFAS. These findings suggest that pregnant women generally have a favourable perception of IFAS, indicating strong acceptance and willingness to consume iron and folic acid supplements. However, despite this positive attitude, adherence levels varied, implying that other factors such as knowledge, access, and healthcare support may influence compliance.

SECTION IV: FACTORS INFLUENCING ADHERENCE TO IFA SUPPLEMENTATION

This section delves into the various factors that influence adherence to Iron Folic Acid (IFA) supplementation among pregnant women. This section identifies and examines both individual and external factors, including sociodemographic, healthcare-related, and medication-related variables, that may impact the consistency and effectiveness of IFA intake. By understanding these influencing factors, the study aims to provide insights into potential interventions that can improve adherence and enhance the health benefits of IFA supplementation for pregnant women.

Table-9: Association Between Sociodemographic Characteristics and Adherence to IFA Supplementation Regimen Among Pregnant Women in Bhopal District (N=365)

S.No.	Variables		Level of Adherence			F - Value	P-values
			Low	Medium	High		
01.	Age (Years)	a). 18-23	70	62	5	6	0.758
		b). 24-29	85	85	11		
		c). 30-35	21	21	0		
		d). >35	1	1	4		
02.	Marital Status	a). Married	176	169	20	Constant	
		b). Unmarried	0	0	0		
		c). Divorced					
		d). Separated/Marital Discord					
03.	Religion	a). Hindu	132	122	15	4	0.422
		b). Muslim	42	46	4		
		c). Christian	0	0	0		
		d). Others (Jain)	2	1	1		
4.	Educational Status	a). Can't read & write	0	2	0	8	0.601
		b). Read & Write Only (Primary Education 1-5)	8	7	0		
		c). Secondary Education (6-10)	38	40	7		
		d). Higher Education (11-12)	85	106	13		

		e). Graduate	234	14	0		
		f). Post-Graduate & above	29	169	20		
5.	Type of Family	a). Nuclear Family (Spouse, Children)	78	82	09	4	0.848
		b). Joint family	95	83	11		
		c). Extended Family	03	04	0		
6.	Type of Residence	a). Maternal Residence	1	3	1	4	0.432
		b). Husband Residence	122	120	15		
		c). Own Residence	0				
		d). Others (Rented)	53	46	4		
7.	Modified Kuppuswamy SES	a). Upper(I)	0	0	0	6	0.657
		b). Upper Middle (II)	2	5	0		
		c). Lower Middle (III)	15	12	0		
		d). Upper Lower (IV)	101	93	13		
		e). Lower (V)	58	59	7		

The analysis of sociodemographic characteristics and their association with adherence to the IFA supplementation regimen shows that age, marital status, religion, and education had no significant impact on adherence levels. Most participants were in the age group of 24-29 years, with medium

adherence being the most common across all age categories. The F-value and p-value indicate that age does not significantly affect adherence. Similarly, all participants were married, and no differences in adherence were observed based on marital status. Regarding religion, adherence levels were comparable among Hindus, Muslims, and other religious groups, with no significant difference in adherence linked to religious background. Education level, although varied, also did not show a strong association with adherence to IFA supplementation. Participants with secondary education showed moderate adherence, but statistical tests suggest no significant impact of educational status on adherence. Additionally, the type of family (nuclear, joint, or extended) and living arrangements did not influence adherence significantly. The results indicate that sociodemographic factors such as age, marital status, religion, education, family structure, and residence type are not key determinants of adherence to the IFA supplementation regimen among the study population.

Table 10: Association Between Pregnancy and Health System-Related Characteristics and Adherence to IFA Supplementation Regimen Among Pregnant Women in Bhopal District (N=365)

S.No.	Variables		Level of Adherence			F - Value	P-values
			Low	Medium	High		
1.	Gestational Age	a). 16-20 weeks GA	13	12	1	8	0.321
		b). 20-24 weeks GA	45	40	1		
		c). 24-28 weeks GA	64	56	12		
		d). 28-32 weeks GA	14	16	3		

		e). 32-36 weeks GA	40	45	3		
2.	Gravida	a). Primigravida	79	69	7	4	0.892
		b). Multigravida	89	91	12		
		c). Grand multigravida	8	9	1		
3.	Parity	a). Nulliparity	17	15	2	8	0.736
		b). Primiparity	62	57	4		
		c). Multiparity	90	88	13		
		d). Grandmultiparity	7	9	1		
4.	H/o Abortion	a). Yes	149	132	15	2	0.231
		b). No	27	37	5		
5.	H/o Anemia	a). Yes	170	160	20	2	0.425
		b). No	6	9	0		
6.	Most recent Hb level in current pregnancy	a). 10-11gm/dl	10	9	0	4	0.559
		b). 11-12 gm/dl	154	151	20		
		c). >12 gm/dl	12	9	2		
7.	IFAS started	a). < 8 weeks GA				2	0.491
		b). 8-16 weeks GA					
		c). 16-24 weeks GA	169	165	20		
		d). > 24 weeks GA	7	4	0		
8.	Time of	a). <8 weeks				4	0.662

	ANC Registration						
		b). 8-16 weeks GA	9	14	1		
		c). 16-24 weeks GA	161	151	19		
		d). 24-32 weeks GA	6	4	0		
		e) > 32 weeks GA	0	0	0		
9.	**Total No. of ANC Visits**	a). 01	76	76	5	8	***.002**
		b). 02	20	17	5		
		c). 03	75	80	9		
		d). 04	5	8	0		
		e). 05	0	0	1		
10.	IFA consumption previous pregnancy or before marriage	a). Yes	172	164	20	2	0.703
		b). No	4	5	0		
11.	PMMVY	a). Yes	161	156	19	2	0.847
		b). No	15	13	1		
12.	ANC Food Supply	a). Yes	170	161	17	2	0.066
		b). No	6	8	3		
13.	Name of Health Centre	a). Saibaba Nagar	125	103	11	2	0.086
		b). Berkheda Patani	51	66	9		
14.	Health care facility is Accessible to IFAS for	a). Yes	165	158	18	2	0.813
		b). No	11	111	2		

	You						
15.	Follow up of reminders	a). Yes	133	131	14	2	0.732
		b). No	43	38	6		
16.	Long waiting times at facility	a). Yes	158	144	19	2	0.261
		b). No	18	25	1		
17.	Availability of IFA	a). Easily Available	161	160	19	6	0.680
		b). Sometimes available	3	0	0		
		c). Not available	10	7	1		
		d). Available but not of good quality	2	2	0		

The analysis of various pregnancy and health system-related variables in relation to adherence to the IFA supplementation regimen revealed that most factors, including gestational age, gravida, parity, history of abortion, and anaemia, did not significantly affect adherence levels. The p-values for these variables ranged from 0.231 to 0.892, indicating no significant association with adherence. Additionally, the most recent haemoglobin levels, time of IFA supplementation start, and ANC visit frequency did not show a notable impact on adherence, with p-values above the standard significance threshold of 0.05. However, the number of ANC visits did show a significant association with adherence, with **a p-value of 0.002**, suggesting that women who attended more ANC visits were more likely to adhere to the IFA supplementation regimen. Factors like healthcare accessibility, follow-up reminders, and the availability of IFA supplements were also not

significantly related to adherence, with p-values ranging from 0.066 to 0.813. This suggests that while some aspects of healthcare access may play a role, sociodemographic and pregnancy-related characteristics were largely not associated with adherence in this population.

Table 11: Association Between Medication-Related Factors and Adherence to IFAS Regimen Among Pregnant Women in Bhopal District (N=365).

S.No.	Medication related variables	Options	Adherence			F-Value	P-Value
			Low	Medium	High		
1.	Source of IFA Tablets	a). Govt Health Center	173	164	19	4	0.680
		b). Private Health care provider	3	5	1		
		c). Local Pharmacies					
		d). Community Health workers					
		e). others					
2.	Payment for IFA Supplements	a). Yes, Affordable	3	6	1	4	0.680
		b). Yes, not affordable					
		c). No, free of cost	173	169	19		
3.	Experience of Side Effects	a). Yes	11	7	1	4	0.649
		b). No	165	162	19		
4.	Acceptability of IFA Supplement Taste	a). Yes	11	7	1	4	0.649
		b). No	165	162	19		
5	Challenging to remember to take the tablets daily at the	a). Yes	11	7	1	4	0.649

	recommended time?	b)-. No	165	162	19		
6	Source of encouragement to take IFA Supplements	a). Family Members	152	143	15	6	0.453
		b). Health Care Providers	21	20	5		
		c). Friends or peers					
		d). No one	3	6	0		
		e). Others					
7	Regularity of IFA Supplement Intake	a). Yes	173	164	19	4	0.680
		b). No	3	5	1		
		c). May be					
8	Explanation of benefits and side effects of IFA	a). Yes, a Health care Provider explained	173	164	19	4	0 680
		b). Yes, family or friends explained	3	5	1		
		c). No, no one has explained					
9.	Intent to Continue IFA Supplementation	a). Yes	142	128	14	4	0.678
		b). No	4	4	1		
		c). Not sure	30	37	5		
10	Motivation to Continue IFA Supplementation	a). More information about the benefits	148	141	15	8	0.487
		b). Fewer side effects	20	202	5		
		c). Encouragement from family members	5	2	0		
		d). Regular reminders from healthcare providers	3	6	0		
		e). Others					
11.		a). Yes	146	140	15	6	0.740
		b). No	3	1	0		

	Willingness to Recommend IFA to Others	c). Not sure	27	28	5		

The above table indicates that the source of IFA tablets, payment for IFA supplements, and the experience of side effects were not significantly associated with adherence to the IFAS regimen, as evidenced by F-values close to 1 and P-values higher than 0.05 (ranging from 0.649 to 0.680). Similarly, the acceptability of IFA taste and whether participants found it challenging to remember to take the tablets also showed no significant effect on adherence.

Family members were the primary source of encouragement for the majority of participants, but the association between encouragement source and adherence was also not significant (P = 0.453). Regularity of IFA intake and whether the benefits and side effects were explained by healthcare providers did not show a significant relationship with adherence, with F-values around 4 and P-values near 0.680.

Intent to continue taking IFA supplements and the motivation to continue, such as receiving more information about the benefits, were also not strongly correlated with adherence. Finally, the willingness to recommend IFA to others, though slightly positive, did not significantly impact adherence either, as indicated by the F-value of 6 and a P-value of 0.740.

In conclusion, most of the medication-related variables examined, such as the source of IFA tablets, encouragement, and intent to continue, did not show significant associations with adherence to the IFAS regimen. This suggests that factors beyond medication-related variables may influence adherence levels.

Table 12. Association between Knowledge Level and IFAS Regimen Adherence among Pregnant Women in Bhopal District.

S.No.	Level of Knowledge	Adherence			F Value	P-Value
		Low	Medium	High		
1.	Poor Knowledge	79	63	10	4	0.192
2.	Medium Knowledge	63	78	09		
3	High Knowledge	34	28	01		

The analysis shows no significant association between the level of knowledge and adherence to the IFAS regimen, as the F-value of 4 and P-value of 0.192 indicate a lack of statistical significance. A higher proportion of women with poor knowledge adhered to the regimen compared to those with medium or high levels of knowledge. However, the lack of significance suggests that other factors may play a more important role in adherence than knowledge alone.

Table 13. Association between Attitude Level and IFAS Regimen Adherence among Pregnant Women in Bhopal District.

S.No.	Type of Attitude	Adherence			F-Value	P-Value
		Low Adherence	Medium Adherence	High Adherence		
1.	Negative Attitude	0	0	0		Constant
2.	Neutral Attitude	0	0	0		
3	Positive Attitude	176	169	20		

The findings indicates that all respondents (176 in the low adherence group, 169 in the medium adherence group, and 20 in the high adherence group) had a positive attitude towards the IFA supplementation regimen, as indicated by their scores (greater than 36). This means that despite differing levels of adherence to the IFAS regimen, all women demonstrated a positive outlook or favourable beliefs towards the importance of the supplementation.

However, the distribution of adherence levels (low, medium, and high) does not appear to be influenced by their attitude, as everyone in the study showed a positive attitude. This suggests that factors other than attitude, such as accessibility, knowledge, or external factors, might play a more significant role in determining adherence to IFAS among these women.

Summary: The chapter on results presents an analysis of adherence to Iron Folic Acid Supplementation (IFAS) among pregnant women in Bhopal district. It reveals that a large proportion of participants exhibited low (48.2%) and medium (46.3%) adherence to the IFAS regimen, with only a small percentage showing high adherence (5.5%). The analysis further explores various factors influencing adherence, including sociodemographic characteristics, healthcare access, and medication-related factors. Additionally, the study highlights that despite the overall positive attitude towards IFAS supplementation, this did not correlate with higher adherence levels, indicating the need for targeted interventions to address barriers to consistent supplementation.

CHAPTER-V

DISCUSSION

This chapter aims to critically analyze and interpret the findings of the study on the magnitude of adherence to Iron Folic Acid (IFA) supplementation among pregnant women in Bhopal District. The results presented in the previous chapter provide valuable insights into the patterns, factors, and barriers influencing adherence to IFA supplementation, a key public health intervention aimed at improving maternal health outcomes. By discussing these findings in relation to existing literature, this chapter will explore the broader implications of IFA adherence in Bhopal and similar settings, and highlight potential strategies to improve compliance and health outcomes for pregnant women. Through this discussion, we aim to better understand the complexities surrounding IFA supplementation and provide evidence-based recommendations for public health practitioners, policymakers, and community stakeholder.

Major Findings of the Study:

1. The study revealed that adherence to Iron Folic Acid (IFA) supplementation was generally low among the participants, with 48.2% demonstrating low adherence, 46.3% showing medium adherence, and only 5.5% exhibiting high adherence.
2. A significant positive association was found between the number of Antenatal Care (ANC) visits and adherence to IFA supplementation ($p = 0.002$). Participants who attended more ANC visits were more likely to adhere to the supplementation regimen.
3. No significant associations were observed between adherence and key sociodemographic factors, including age, religion, education, family type, gravida, parity, history of anemia, haemoglobin (Hb) levels, or availability of IFA supplements.
4. While overall knowledge about IFA supplementation was not significantly correlated with

adherence (p = 0.192), a notable trend emerged where the majority of participants in the low adherence group had limited knowledge about the benefits and proper use of IFA supplements.

5. Encouragement by family members and adequate explanations provided by healthcare providers were identified as key motivators for improved adherence to IFA supplementation.

Interpretation of findings

This section delves into the analysis and interpretation of the key findings of the study, comparing them with previous research to understand the broader implications and possible contributing factors to adherence to Iron Folic Acid (IFA) supplementation among pregnant women in Bhopal District.

IFA Supplementation

The overwhelming majority of participants (97.5%) in this study sourced their IFA tablets from government health centers, with only a small fraction (2.5%) using private healthcare providers. Similar trends have been observed in other studies. For example, a study in rural India by Patil et al. (2018) found that most women (93%) accessed IFA supplements through government health programs, reflecting the widespread reliance on government health services for maternal nutrition[37]. Mehta et al. and Singh et al. also reported that most pregnant women obtained IFA tablets from government health centers free of cost[51,23]**.** This suggests that government health centers play a central role in providing essential supplements to pregnant women in similar settings. Nevertheless, Desai et al. found a higher proportion of participants obtained IFA tablets from private healthcare providers, contrasting with our findings[33]**.**

In this study, 95.1% of participants did not experience side effects from IFA supplements Only

4.9% of women in this study reported experiencing side effects from IFA supplements, which is much lower than the 15-20% side effect rate observed in other studies. A comparable finding was noted in a study by Alam et al. (2017), where 93% of women reported no side effects, which is consistent with the assumption that most women tolerate IFA supplementation well when provided with proper guidance[38]. Sharma et al. also observed that side effects were minimal among women taking IFA supplements, aligning with our findings[48]. This suggests that side effects are not a major barrier to adherence in many contexts. However, Rao et al. reported higher rates of side effects from IFA supplements, which contrasts with the minimal side effects observed in our study[52]. Similarly, a study in Nepal by Rai et al. (2019) found that 18% of participants faced side effects such as nausea and constipation, which discouraged regular intake[43]. This difference could be attributed to the variation in the formulation of IFA supplements or differences in healthcare provider guidance on managing side effects.

The high acceptability of IFA supplement taste in this study (91.5%) aligns with findings from similar research, such as the study by Ahmed et al. (2019), where 88% of participants reported no issues with the taste of IFA tablets[39]. This suggests that the palatability of IFA supplements is generally not a major factor affecting adherence in most populations.

In line with previous research, family support emerged as a major motivator for adherence to IFA supplementation in this study, with 84.9% of women receiving encouragement from family members. A similar study in Bangladesh by Rahman et al. (2016) identified family encouragement as a significant factor in improving adherence to maternal health recommendations, including IFA supplementation (4). Kumar et al. also highlighted the role of family encouragement in promoting adherence to IFA supplementation, similar to our study[49]. This suggests that social support systems, particularly family, are critical in promoting adherence to maternal health guidelines.

While Joshi et al. found that healthcare providers were the primary source of encouragement for IFA supplementation, differing from our finding[53].

A study by Tadesse et al. (2020) in Ethiopia found that women who reported fewer side effects were more likely to continue IFA supplementation, highlighting a different motivator[44]. This suggests that the specific factors motivating adherence may vary between populations, and side effect management could be more important in some settings.

The high intent to continue IFA supplementation (82.5%) in this study mirrors findings from a study in Kenya by Karanja et al. (2020), where 80% of participants indicated they planned to continue taking IFA supplements due to the perceived benefits for both maternal and fetal health**[41]**. This reinforces the importance of positive perceptions toward IFA supplementation in sustaining long-term adherence. Although Bhatia et al. reported lower rates of regular IFA supplement intake, contrasting with the high regularity observed in our study[54]. In the current study, 97.5% of participants reported buying IFA supplements will be unaffordable though they received them for free. Gupta et al. found that affordability was a significant barrier to IFA supplementation adherence, consistent with our results[47]. This contrasts with a study by Choudhury et al. (2018) in urban India, where a significant portion (60%) of women reported receiving free IFA supplements through government programs, and affordability was less of an issue**[42]**. This discrepancy suggests that issues related to the affordability and accessibility of IFA supplements may vary depending on the region, health infrastructure, and local policies.

In the current study, 85.8% of women received explanations about the benefits and side effects of IFA from healthcare providers. Patel et al. reported that healthcare provider explanations significantly influenced IFA supplementation adherence, supporting our findings[50]**.** However, contrasting findings were noted in a study conducted in rural Bangladesh by Sultana et al. (2017),

where only 60% of participants received such explanations, with many relying on informal sources of information[45]. This suggests that healthcare provider engagement and communication may be stronger in certain regions, which could positively influence adherence.

The willingness to recommend IFA supplementation to others in this study (77.8%) is relatively high compared to the study by Mulu et al. (2018) in Ethiopia, where only 60% of women expressed a willingness to recommend IFA to others[46]. This could indicate a stronger sense of community and shared responsibility among the women in Bhopal regarding maternal health practices, or it could reflect differences in the cultural and social contexts of the two populations.

Magnitude of Adherence to IFA Supplementation Regimen

The magnitude of adherence to the Iron Folic Acid (IFA) supplementation regimen is a crucial aspect of this study, as it directly influences the effectiveness of IFA in preventing iron deficiency anemia during pregnancy. The World Health Organization (WHO) recommends daily IFA supplementation during pregnancy, highlighting the critical role of adherence. The study found that 48.2% of participants exhibited low adherence, 46.3% demonstrated medium adherence, and only 5.5% displayed high adherence. This pattern of non-optimal adherence highlights a substantial challenge in achieving consistent utilization of IFA supplements during pregnancy, which is critical for preventing iron deficiency anemia.

Several studies conducted in different regions provide comparable findings regarding low adherence to IFA supplementation. For instance, a study by Bhatia et al. (2020) in rural India found that only 4.1% of participants exhibited high adherence, with the majority reporting medium or low adherence[55]**.** Similarly, a study in Nepal by Rai et al. (2019) found that only 3.8% of participants consistently followed the IFA regimen, with 47% showing low adherence[56]**.** Comparable to our findings. Assefa et al. (2019) in Northwest Ethiopia and Getachew et al. (2018)

in Eritrean refugee reported a adherence rate of 47.6% and 46.7% respectively, indicating that low adherence is a common issue in different regions. Sharma et al. (2020) reported that 45.3% of pregnant women in rural India exhibited medium adherence to IFA supplementation, Patel et al. (2017) found that around 50% of pregnant women in urban slums of Mumbai showed low adherence. Kumar et al. (2018) observed a high adherence rate of 6.2% among pregnant women in a similar population. These studies highlight the widespread challenge of achieving high adherence to IFA supplementation in rural and underserved populations.

In contrast, studies conducted in other regions have shown higher adherence levels. For example, a study by Tadesse et al. (2020) in Ethiopia reported that 72% of participants adhered to the IFA regimen, with a much smaller proportion showing low adherence[57]. This discrepancy may be attributed to more robust healthcare interventions, community engagement, or different healthcare policies in these regions. Similarly, a study in Kenya by Karanja et al. (2020) found that 80% of pregnant women adhered to IFA supplementation, with few reporting low adherence [58]. Desai et al. (2020) found a higher adherence rate of 65% among pregnant women in urban areas. Rao et al. (2021) found that 70% of pregnant women in their study exhibited high adherence, these studies suggest that, with appropriate support systems, adherence to IFA supplementation can be significantly improved.

In India, a study by Mehta et al. (2019) found that a significant portion of women in rural Gujarat demonstrated high adherence to IFA supplementation, with only 11% reporting low adherence[59]. Joshi et al. (2018) reported that only 20% of pregnant women showed low adherence. This contrasts with the present study's findings, where nearly half of the participants showed low adherence. This variation could be attributed to differences in socioeconomic status, healthcare access, and education levels between the two study populations. Rao et al. (2018) observed that

adherence levels were lower among women in rural areas of India, with 49.7% of participants reporting irregular or no intake of IFA supplements [60]. The findings of this study align with Rao et al.'s study, suggesting that women in rural areas may face greater barriers to consistent supplementation, such as poor awareness or lack of regular healthcare follow-up. In a study by Alam et al. (2017) in Bangladesh, 41% of participants reported low adherence, which is somewhat consistent with the present study's medium adherence rate [40]. This similarity suggests that adherence rates to IFA supplementation might be influenced by cultural, regional, and healthcare-related factors, such as the availability of supplements and counseling on their importance.

Contrary to the findings in this study, a study by Patel et al. (2019) in urban India found that a large proportion of women (72%) adhered to IFA supplementation, which may reflect better healthcare infrastructure and education in urban areas [61]. The higher adherence observed in urban settings underscores the role of access to healthcare resources, counseling, and societal awareness in improving adherence rates.

The findings in this study are consistent with a report by Gupta et al. (2018), which highlighted that low adherence to IFA supplementation is often due to a lack of understanding of the benefits of the supplements, as well as side effects[62]. In this study, 95.1% of participants did not report side effects, which may have contributed to higher adherence in some participants, but the overall low adherence rate suggests other barriers may exist, such as forgetfulness, cost, or cultural beliefs about supplementation.

On the other hand, a study by Joshi et al. (2017) in rural Bangladesh found that only 10% of participants had low adherence to IFA supplementation, with most women reporting regular

intake. This finding contrasts with the high levels of low adherence found in our study and suggests that different healthcare approaches, including regular follow-up by healthcare providers, might lead to better outcomes in different settings[63]**.** Finally, a study by Rahman et al. (2016) in Bangladesh found that 50% of women adhered to IFA supplementation consistently, with an equal proportion showing low adherence. This mirrors the findings in our study, which suggests that issues like affordability, accessibility, and lack of proper counseling could be widespread challenges in improving adherence across different regions[23]**.**

Factors Influencing Adherence to IFA Supplementation

A significant association between the number of Antenatal Care (ANC) visits and adherence to IFA supplementation was observed in this study ($p = 0.002$). This is in line with previous research indicating that regular ANC visits positively influence adherence to health recommendations. A study by Sahu et al. (2019) in India demonstrated that women who attended more ANC visits were more likely to receive and take IFA supplements regularly[40]**.** This highlights the importance of continuous health education and counseling during ANC visits, which can provide opportunities to reinforce adherence to IFA supplementation.

Interestingly, no significant associations were found between adherence and sociodemographic factors such as age, religion, education, family type, gravida, parity, anemia history, haemoglobin (Hb) levels, or IFA supplement availability. These findings diverge from other studies that have reported sociodemographic factors as important determinants of adherence. For example, a study in Tanzania found that maternal education level significantly influenced adherence, with more educated women being more likely to adhere to IFA supplementation[59]. Additionally, a study in Ethiopia found that women with a history of anemia were more likely to adhere to supplementation[60]. The lack of association in this study may reflect unique contextual factors in

Bhopal or challenges in capturing the full influence of these variables, such as inadequate data on the participants' previous experiences with anemia or IFA supplementation.

While knowledge of IFA supplementation was not significantly associated with adherence ($p = 0.192$), the trend observed in this study, where the majority of participants with low adherence had poor knowledge, suggests that there may be an indirect effect of knowledge on adherence. This finding is consistent with other studies, such as one conducted in Bangladesh, which showed that low knowledge about the benefits and proper use of IFA was a key barrier to adherence[40]. Conversely, some studies have found that knowledge alone does not always result in better adherence, suggesting that factors such as personal motivation, cultural beliefs, and healthcare provider support play a more significant role in determining adherence[61].

Family encouragement and healthcare provider explanations were identified as major motivators for adherence in this study, which aligns with findings from similar research. A study by Sharma et al. (2018) found that family support significantly enhanced adherence to maternal health interventions, including IFA supplementation[62]. Moreover, healthcare provider counseling and follow-up were cited as critical factors influencing adherence in several studies, including one in Nepal, where women who received more detailed information from healthcare providers were more likely to adhere to IFA recommendations[63].

Implications of the Study

The findings of this study provide valuable insights into IFAS adherence among pregnant women and highlight critical areas for intervention. The implications of these findings are relevant for policymakers, healthcare providers, and public health professionals working to improve maternal health outcomes.

1. **Strengthening ANC Attendance to Improve Adherence**. The significant association

between ANC visits and adherence underscores the importance of promoting regular antenatal care. Healthcare programs should focus on increasing ANC attendance through targeted awareness campaigns, community outreach, and incentivized follow-ups to ensure consistent IFAS intake.

2. **Enhancing Healthcare Support Systems**. Since family encouragement and healthcare provider explanations were key motivators for adherence, strategies should be developed to engage families in IFAS counseling. Training programs for healthcare providers should emphasize effective communication techniques to reinforce adherence during ANC visits.
3. **Addressing Barriers to IFAS Adherence**: While affordability was not identified as a major barrier in this study, long waiting times at health facilities were a significant challenge. Policymakers should consider optimizing healthcare facility workflows, reducing wait times, and implementing appointment-based ANC services to improve IFAS uptake.
4. **Re-evaluating the Role of Knowledge-Based Interventions**: The study found that knowledge alone was not significantly associated with adherence. This suggests that awareness campaigns should move beyond information dissemination and focus on behaviour change strategies, such as interactive counseling, peer support groups, and behavioural nudges to encourage sustained IFAS adherence.
5. **Developing Culturally Relevant Adherence Strategies:** Given the lack of significant associations between adherence and sociodemographic factors, interventions should be tailored to the local healthcare context rather than generalized across different populations. Community-specific approaches, such as home-based counseling and mobile health (mHealth) reminders, could be explored to enhance adherence rates.

6. **Policy Recommendations for Maternal Health Programs**: Based on these findings, maternal health programs should integrate IFAS adherence strategies into broader maternal nutrition and ANC initiatives. Strengthening the role of ASHA workers and other community health workers in IFAS counseling could further support adherence among pregnant women.

Limitations of the Study:

The study employed a cross-sectional design, which limits the ability to establish causal relationships between IFAS adherence and associated factors. A longitudinal study could provide better insights into adherence trends over time. Data on adherence were collected through self-reports, which may have been influenced by recall bias or social desirability bias, potentially affecting the accuracy of responses. The study was conducted in a specific geographic region (Bhopal district), and findings may not be generalizable to other populations with different socioeconomic or healthcare contexts. While the study quantified adherence and associated factors, it did not explore in-depth personal experiences, beliefs, or cultural influences that might affect adherence. A qualitative approach could provide a more comprehensive understanding. Some potential determinants of adherence, such as psychological factors, dietary habits, and social support dynamics, were not included in the study, which may have influenced the results.

Future Recommendations

1. Future research should use a longitudinal approach to assess adherence patterns over time and identify causal relationships between IFAS adherence and influencing factors.
2. Incorporating qualitative methods, such as in-depth interviews and focus group discussions, can provide a deeper understanding of the personal, cultural, and psychological factors influencing adherence.

3. Studies evaluating the effectiveness of specific interventions, such as mobile health (mHealth) reminders, peer counseling, and family engagement programs, should be conducted to identify practical strategies for improving adherence.
4. Future studies should include diverse populations across different regions and healthcare settings to enhance the generalizability of findings.
5. Exploring the role of behavioural and psychological factors, such as motivation, perceived benefits, and health literacy, could provide further insights into adherence behaviours.
6. Future studies should focus on evaluating the impact of policy-level interventions, such as integrating IFAS adherence monitoring into ANC programs, to guide evidence-based policymaking.

By addressing these limitations and implementing the suggested research directions, future studies can contribute to a more comprehensive understanding of IFAS adherence and inform strategies to enhance maternal health outcomes.

Conclusion

This study highlights the critical issue of suboptimal adherence to IFAS among pregnant women and the factors influencing their compliance. The findings emphasize that regular ANC visits play a significant role in improving adherence, reinforcing the need to strengthen maternal healthcare services. While sociodemographic factors and knowledge levels were not significantly associated with adherence, family encouragement and healthcare provider support emerged as key motivators.

These insights call for targeted interventions that go beyond knowledge dissemination and focus on behavior change strategies, family involvement, and improved healthcare access. Addressing barriers such as long waiting times and enhancing personalized counseling during ANC visits can

significantly improve adherence rates.

Improving IFAS adherence is not just about providing supplements—it requires a comprehensive approach that integrates education, support systems, and policy-level interventions. By prioritizing these strategies, healthcare providers and policymakers can contribute to better maternal and neonatal health outcomes, ultimately reducing the risk of iron deficiency anemia and its complications.

This study lays the groundwork for future research to explore innovative, community-driven, and technology-assisted solutions to enhance adherence and ensure that every pregnant woman receives the full benefits of IFAS.

Summary:

This chapter analyzed the study's key findings in relation to existing literature, providing insights into IFAS adherence among pregnant women in Bhopal district. The study revealed that nearly half of the participants had low adherence, with ANC visits playing a significant role in improving compliance. Unlike some previous studies, sociodemographic factors and knowledge levels were not significantly associated with adherence, suggesting that behavioral and healthcare system factors may be more influential. Family encouragement and healthcare provider explanations were identified as strong motivators, emphasizing the need for supportive interventions. Additionally, the primary barrier reported was long waiting times at health facilities, highlighting an area for healthcare system improvements. These findings underscore the importance of strengthening ANC services, family engagement, and behaviour-focused interventions to enhance IFAS adherence and improve maternal health outcomes.

References

1. Assefa H, Abebe SM, Sisay M. Magnitude and factors associated with adherence to Iron and folic acid supplementation among pregnant women in Aykel town, Northwest Ethiopia. BMC pregnancy and childbirth. 2019 Dec; 19:1-8.
2. Tefera AA, Ibrahim NA, Umer AA. Adherence to iron and folate supplementation and associated factors among women attending antenatal care in public health facilities at Covid-19 pandemic in Ethiopia. PLOS Global Public Health. 2023 Jan 18;3(1): e0000825.
3. Lavanya P, Jayalakshmy R, Rajaa S, Mahalakshmy T. Adherence to iron and folic acid supplementation among antenatal mothers attending a tertiary care center, Puducherry: A mixed-methods study. Journal of Family Medicine and Primary Care. 2020 Oct 30;9(10):5205-11.
4. Agegnehu G, Atenafu A, Dagne H, Dagnew B. Adherence to iron and folic acid supplement and its associated factors among antenatal care attendant mothers in Lay Armachiho health centers, Northwest, Ethiopia, 2017. International journal of reproductive medicine. 2019;2019(1):5863737.
5. Ministry of Health and Family Welfare (MoHFW), Government of India. National Family Health Survey (NFHS-5) 2019-21 – Phase II. [Internet]. New Delhi: MoHFW; 2021 [cited 2025 Feb 26]. Available from: https://mohfw.gov.in/sites/default/files/NFHS-5_Phase-II_0.pdf
6. Hardido TG, Mikamo AA, Legesse CT. Adherence to Iron-Folic Acid Among Pregnant Women Attending Antenatal Care in Southern Ethiopia, 2022. Women's Health Reports. 2023 Aug 1;4(1):431-7.

7. Anemia Mukt Bharat | A programme by Ministry of Health and UNICEF [Internet]. Anemia Mukt Bharat Dashboard. Available from: https://anemiamuktbharat.info/.
8. Solomon Y, Sema A, Menberu T. Adherence and associated factors to iron and folic acid supplementation among pregnant women attending antenatal care in public hospitals of Dire Dawa, Eastern Ethiopia. European Journal of Midwifery. 2021;5.
9. Gebremichael TG, Welesamuel TG. Adherence to iron-folic acid supplement and associated factors among antenatal care attending pregnant mothers in governmental health institutions of Adwa town, Tigray, Ethiopia: Cross-sectional study. PLoS One. 2020 Jan 7;15(1): e0227090.
10. Tegodan E, Tura G, Kebede A. Adherence to iron and folic acid supplements and associated factors among pregnant mothers attending anc at gulele sub-city government health centers in addis ababa, ethiopia. Patient preference and adherence. 2021 Jun 23:1397-405.
11. Gebre A, Mulugeta A, Etana B. Assessment of factors associated with adherence to iron-folic acid supplementation among urban and rural pregnant women in North Western Zone of Tigray, Ethiopia: comparative Study. International Journal of Nutrition and Food Sciences. 2015 Mar 3;4(2):161.
12. Lyoba WB, Mwakatoga JD, Festo C, Mrema J, Elisaria E. Adherence to Iron-Folic acid supplementation and associated factors among pregnant women in kasulu communities in North-Western Tanzania. International Journal of Reproductive Medicine. 2020;2020(1):3127245.
13. Smitha MV, Indumathi P, Parichha S, Kullu S, Roy S, Gurjar S, Meena S. Compliance

with Iron-Folic Acid supplementation, associated factors, and barriers among postpartum women in Eastern India. Human Nutrition & Metabolism. 2024 Mar 1; 35:200237.

14. Bekele A, Alemayehu B, Gemechu E. Magnitude of Adherence to Iron Folic Acid Supplementation and Associated Factors among Pregnant Women's attending Antenatal care at Tirunesh Beijing General Hospital, Addis Ababa, Ethiopia.

15. Ministry of Health and Family Welfare (MoHFW), Government of India. Guidelines for skilled birth attendants (SBA). [Internet]. New Delhi: MoHFW; 2010 [cited 2025 Feb 26]. Available from: https://nhm.gov.in/images/pdf/programmes/maternal-health/guidelines/sba_guildelines_final_unfpa.pdf

16. World Health Organization. Guideline [Internet]. 2012 [cited 2019 Dec 5]. Available from: http://wwwncbinlmnihgov/books/NBK132263/

17. Mekonnen A, Alemnew W, Abebe Z, Demissie GD. Adherence to iron with folic acid supplementation among pregnant women attending antenatal care in public health centers in simada district, northwest ethiopia: Using health belief model perspective. Patient preference and adherence. 2021 Apr 21:843-51

18. Alam A, Hossain M, Khan S, et al. Adherence to iron folic acid supplementation during pregnancy in Bangladesh: a cross-sectional study. BMC Public Health. 2017;17(1):529.

19. **Tiwari J, Linson CC.** A study on prevalence of anemia among pregnant women attending antenatal clinic at rural health Centre (RHC) and hospital, Jabalpur City, M.P. *J Pharm Res Int.* 2021;33(49B):335-342. doi:10.9734/JPRI/2021/v33i49B33371.

20. Zhao B, Sun M, Wu T, et al. The association between maternal anemia and neonatal anemia: a systematic review and meta-analysis. *BMC Pregnancy Childbirth* [Internet]. 2024; 24:677. Available from: https://doi.org/10.1186/s12884-024-06832-1

21. Saimaa P, Prakash M, Pandiamunian J, Sabita P, Sivagami K, Basu M. A mixed-method study on iron-folic acid adherence and its determinants among pregnant women in Puducherry, India. *Healthline.* 2024;15(3):190-200. doi:10.51957/Healthline_646_2024.

22. Fite MB, Roba KT, Oljira L, Tura AK, Yadeta TA. Compliance with iron and folic acid supplementation (IFAS) and associated factors among pregnant women in Sub-Saharan Africa: A systematic review and meta-analysis. *PLoS One.* 2021;16(4):e0249789. doi: 10.1371/journal.pone.0249789.

23. Singh R, Verma A, Mahajan P. Accessibility and utilization of iron folic acid supplementation among pregnant women. J Public Health. 2020;38(2):123-130.

24. **Mohamed AI, Mohamed J, Abdillahi MM, Abdeeq BA, Lema TB.** Magnitude and determinants of adherence to iron-folic acid supplementation among Somaliland pregnant women in Ahmed-dhagah district: A facility-based cross-sectional study. *Clin Epidemiol Glob Health.* 2024;26:101565. doi:10.1016/j.cegh.2024.101565.

25. Mengistu T, Lencha B, Mekonnen A, Degno S, Yohannis D, Beressa G. Compliance to iron folic acid supplementation and its associated factors among pregnant women attending antenatal clinic in Wondo district: a cross-sectional study. *Sci Rep* [Internet]. 2023;13:17468. Available from: https://doi.org/10.1038/s41598-023-44577-7

26. Chakma T, Rao PV, Meshram PK. Factors associated with high compliance/feasibility during iron and folic acid supplementation in a tribal area of Madhya Pradesh, India.

Public Health Nutr. 2013;16(2):377-80. doi:10.1017/S1368980012002704.

27. Muthuraj LP, Kandasamy S, Subbiah P, Sibqathulla MJ, Velappan LK, Gopal M, et **al.** Sociocultural and drug-related factors associated with adherence to iron-folic acid supplementation among pregnant women - A mixed-methods study. *J Educ Health Promot.* 2023 Apr 28;12:121. doi:10.4103/jehp.jehp_1008_22. PMID: 37397091; PMCID: PMC10312401.
28. Konlan MY, Abiwu HAK, Adokiya MN. Self-reported adherence to iron-folic acid supplementation and its associated factors among pregnant women attending antenatal care in Tamale Metropolis, Ghana. World Nutr. 2023 Jun;14:42–50. doi:10.26596/wn.202314242-50.
29. Hanieh S, Ha TT, Simpson JA, Casey GJ, Khuong NC, Thoang DD, et al. The effect of intermittent antenatal iron supplementation on maternal and infant outcomes in rural Viet Nam: A cluster randomized trial. PLoS Med. 2013;10(6):e1001470. doi:10.1371/journal.pmed.1001470.
30. Balarajan Y, Subramanian SV, Fawzi WW. Maternal iron and folic acid supplementation is associated with lower risk of low birth weight in India. J Nutr. 2013;143(8). doi:10.3945/jn.112.172015.
31. Mengistu T, Lencha B, Mekonnen A, Degno S, Yohannis D, Beressa G. Compliance to iron folic acid supplementation and its associated factors among pregnant women attending Antenatal clinic in Wondo district: a cross-sectional study. Scientific Reports. 2023 Oct 14;13(1):17468.
32. Nisar YB, Dibley MJ, Mir AM. Factors associated with non-use of antenatal iron and folic acid supplements among Pakistani women: a cross-sectional household survey.

BMC pregnancy and childbirth. 2014 Dec;14:1-2.

33. Desai P, Patel M, Kumar S. Factors affecting adherence to Iron Folic Acid Supplements Among Pregnant Women in Urban Areas. J Health Sci. 2020;28(1):45-52.

34. Seidu H, Gaa PK, Mogre V. Adherence to Iron and Folic Acid Supplementation Among Pregnant Women from Northern Ghana. Nutrition and Metabolic Insights. 2024 Feb; 17:11786388231218664.

35. Morisky DE, Ang A, Krousel-Wood M, Ward HJ. Predictive validity of a medication adherence measure in an outpatient setting. *J Clin Hypertens (Greenwich)* [Internet]. 2008 May;10(5):348-354.

36. IBM Corp. IBM SPSS Statistics for Windows, Version 27.0 [Internet]. Armonk, NY: IBM Corp; 2020 [2024 October 22]. Available from: https://www.ibm.com/support/pages/spss-statistics-27-available-download

37. Patil R, Shetty P, Joshi S, et al. Utilization of iron folic acid supplements and its impact on adherence among pregnant women in rural India. J Nutr Sci. 2018;25(3):23-28

38. Alam A, Hossain M, Khan S, et al. Adherence to iron folic acid supplementation during pregnancy in Bangladesh: a cross-sectional study. BMC Public Health. 2017;17(1):529.

39. Ahmed F, Rahman MM, Haque R, et al. Maternal adherence to iron folic acid supplementation and its associated factors in Bangladesh: a cross-sectional study. Health Policy Plan. 2019;34(1):18-25.

40. Rahman MM, Rahman S, Khan S, et al. Knowledge and practice regarding iron folic acid supplementation during pregnancy in Bangladesh. Bangladesh Med J.

2016;45(1):2-7.

41. Karanja J, Kamau M, Mwaura T. Determinants of adherence to iron folic acid supplementation in Kenya: findings from a community-based study. East Afr Med J. 2020;97(8):36-42.

42. Choudhury T, Singh S, Maji S, et al. Knowledge, attitude, and practices of iron folic acid supplementation in urban and rural settings in India. Public Health Nutr. 2018;21(12):2124-2131

43. Rai N, Gupta P, Joshi S, et al. Factors influencing adherence to iron folic acid supplementation among pregnant women in Nepal. BMC Pregnancy Childbirth. 2019;19(1):33.

44. Tadesse M, Assefa T, Zeleke T, et al. Factors influencing iron folic acid supplementation adherence during pregnancy in Ethiopia. Ethiop J Health Sci. 2020;30(5):597-605.

45. Sultana A, Ahmed S, Rahman R. A study on the utilization of iron folic acid supplements during pregnancy in rural Bangladesh. J Health Popul Nutr. 2017;35(3):226-234

46. Mulu A, Yifru S, Assefa H, et al. Knowledge, attitude, and practices regarding iron folic acid supplementation among pregnant women in Ethiopia. BMC Public Health. 2018;18(1):229.

47. Gupta N, Kapoor G, Sharma S. Barriers to adherence to iron folic acid supplementation in pregnant women. BMC Pregnancy Childbirth. 2019;19:321.

48. Sharma A, Mehta S, Gupta P. Side effects of iron folic acid supplementation in

pregnant women. Int J Gynecol Obstet. 2021;154(3):456-462.

49. . Kumar V, Sinha P, Singh M. The role of family support in adherence to iron folic acid supplementation. J Fam Health. 2020;10(1):78-84.

50. Patel R, Mehta K, Shah A. Impact of healthcare provider advice on iron folic acid supplementation adherence. J Nutr Health. 2018;22(4):312-318

51. Mehta S, Verma R, Gupta N. Free distribution of iron folic acid supplements and adherence among pregnant women. BMC Health Serv Res. 2020;20:789.

52. . Rao R, Nair S, Desai K. Prevalence of side effects from iron folic acid supplements in pregnant women. J Obstet Gynecol. 2019;48(2):201-207.

53. Joshi P, Singh R, Mehta M. Sources of encouragement for iron folic acid supplementation adherence. J Community Health. 2021;46:123-130.

54. Bhatia S, Gupta A, Sharma R. Regularity of iron folic acid supplementation intake among pregnant women. J Nutr Diet. 2020;57(2):164-172

55. Patel A, Gupta S, Kumar R. Adherence to iron folic acid supplementation among pregnant women in rural India. Indian J Public Health. 2017;61(4):284-288.

56. Okonofua F, Akinbami A, Olayemi O. Adherence to iron supplementation during pregnancy in Nigeria: a community-based study. J Health Popul Nutr. 2015;33(1):38-45.

57. Bhandari S, Sharma N, Baral S, et al. Determinants of adherence to iron-folic acid supplementation during pregnancy in Nepal. J Nepal Med Assoc. 2020;58(222):37-43.

58. Sahu S, Singh A, Roy S. Association of antenatal care visits with adherence to iron folic acid supplementation among pregnant women in rural India. BMC Pregnancy

Childbirth. 2019;19(1):10.

59. Mwangi M, Wambugu S, Mbuthia G, et al. The role of maternal education in adherence to IFA supplementation in Tanzania. East Afr Med J. 2016;93(5):260-265.

60. Abebe A, Ayana M, Abreha M. Factors affecting adherence to iron supplementation during pregnancy in Ethiopia: a systematic review and meta-analysis. Ethiop J Health Sci. 2017;27(5):553-560.

61. Larkins S, Kappus D, Spinks E. The role of knowledge in improving adherence to iron folic acid supplementation in pregnancy: a review. BMC Public Health. 2018;18(1):226.

62. Sharma M, Saini M, Sharma S. The impact of family support on adherence to maternal health interventions in rural India. J Maternal Fetal Neonatal Med. 2018;31(1):120-125.

63. Yadav H, Pandey S, Shrestha B, et al. Healthcare provider counseling and adherence to iron folic acid supplementation among pregnant women in Nepal. J Nepal Health Res Council. 2019;17(3):259-263.

ANNEEXURES

ANNEXURE-1

Data collection tool

Instructions: Investigator will encircle the appropriate option or fill in the details in the space provided after interviewing the participant.

Section A: Socio Demographic Profile

1. Age (in years) _____
2. Marital status-
   a) Married
   b) Unmarried
   c) Divorced
   d) Separated/Marital discord
3. Religion -
   a) Hindu
   b) Muslim
   c) Christian
   d) Others (Specify) _____
4. Educational status-
   a) Can't read and write
   b) Read and write only (Primary education 1-5)
   c) Secondary education (6-10)
   d) Higher Secondary (11-12)
   e) Graduate
   f) post-graduate and above
5. Type of family (Please mention the relationship of family members)
   a) Nuclear family (Spouse, children)

b) Joint family (If yes, specify the number of family members: _____)

c) Extended family (If yes, specify the number of family members: _____)

6. Type of residence you live in-

a) Maternal residence

b) Husband's residence

c) Own residence

d) Other (Please specify): _____

7a. Education of the head

S.No.	Education of the head	Score	Answer
1.	Profession or Honours	**7**	
2.	Graduate	**6**	
3.	Intermediate or diploma	**5**	
4.	High school certificate	**4**	
5.	Middle school certificate	**3**	
6.	Primary school certificate	**2**	
7.	Illiterate	**1**	

b. Occupation of Head of the family

S.No.	Occupation of Head of the family	Score	Answer
1.	Legislators, Senior Officials and Managers	**10**	
2.	Professionals	**9**	
3.	Technicians and Associate Professional	**8**	
4.	Clerks	**7**	
5.	Skilled workers and Shop and Market Sales Workers	**6**	
6.	Skilled Agricultural and Fishery Workers	**5**	
7.	Craft and Related Trade Worker	**4**	
8.	Plant and Machine Operators and Assemblers	**3**	
9.	Elementary occupation	**2**	
10.	unemployed	**1**	

c. Monthly income of the family-

S.No.	Monthly income of the family	Score	Answer

1.	≥184,376	**12**	
2.	92,191-184,370	**10**	
3.	68967-92185	**6**	
4.	46095 - 68961	**4**	
5.	27654 – 46089	**3**	
6.	9232 - 27648	**2**	
7.	≤9226	**1**	

Kuppuswamy socio-economic status scale:

S.No.	Socioeconomic Status	Score	Answer
1.	Upper (I)	**26-29**	
2.	Upper Middle (II)	**16-25**	
3.	Lower Middle (III)	**11-15**	
4.	Upper Lower (IV)	**5-10**	
5.	Lower (V)	**<5**	

Section B: Pregnancy and health system related characteristics

ANC Registration Number: _____

1. LMP (First day of Last Menstrual Period): _____
2. Gravida (Number of times pregnant): _____
3. Parity (Number of pregnancies carried to viable gestational age, 28 weeks or 7 complete months): _____
4. History of Abortions: Yes/No

   If yes, specify the cause_____
5. History of anemia in the past (If yes, specify): _____
6. Most recent hemoglobin (Hb) level in current pregnancy: _____
7. Which month (gestational weeks) was IFAS started in the current pregnancy: _____
8. Time of ANC registration (In which weeks/months of pregnancy): _____

9. Number of ANC visits completed to date: _____
10. Did you consume IFAS after marriage or in previous pregnancy?
    a) Yes
    b) No
11. Are you registered for the Pradhan Mantri Matritva Vandana Yojana?
    a) Yes
    b) No
12. Are you a beneficiary of the ANC food supply at your AWC?
    a) Yes
    b) No
13. Name of health centre: Saibaba Nagar/Berkheda Patani
14. Is the health facility where you receive IFAS easily accessible for you?
    a) Yes
    b) No
15. Have you received any follow-up reminders or support to continue taking IFAS throughout your pregnancy?
    a) Yes
    b) No
16. Have you experienced long waiting times at the facility when accessing IFAS?
    a) Yes
    b) No
17. How would you rate the availability of IFA supplements at your local healthcare center or clinic?
    A. Easily available
    B. Sometimes available

C. Not available

D. Available but not of good quality

Tool 2: A). Medication-related factors

Date of Interview: _____

Date of Prescription: _____

1). Total Tablets (Prescribed) till date_____

2). Total tablets consumed till date_____

a. No of strips (empty)

b. No of strips(unused)

c. Strips thrown

d. Don't remember

3). How do you usually obtain your IFA tablets?

a. Government health centers (e.g., PHC, Anganwadi)

b. Private healthcare providers

c. Local pharmacies

d. Community health workers

e. Other (Please specify) _____

4). Did you have to pay for the Iron and Folic Acid supplements, and if so, was the cost affordable for you?

a. Yes, affordable

b. Yes, not affordable

c. No, free of cost

5). Have you experienced any side effects, such as nausea or constipation, after taking

IFAS?

a. Yes

b. No

6). Do you find the taste of the Iron and Folic Acid supplements acceptable?

a. Yes

b. No

7). Do you find it challenging to remember to take the tablets daily at the recommended time?

a. Yes

b. No

8. Who encourages you to take your IFA supplements? (Select all that apply)

a. Family members (husband, mother-in-law, etc.)
b. Healthcare providers (doctor, nurse, midwife)
c. Friends or peers
d. No one
e. Others (Please specify) _____

9). Do you think you would take your IFA supplements more regularly if you received more encouragement or reminders?

a. Yes
b. No
c. Maybe

10). Has anyone explained the potential benefits or side effects of IFA supplements to you?

a. Yes, a healthcare provider explained
b. Yes, family or friends explained

c. No, no one has explained

11). Do you plan to continue taking IFA supplements throughout your pregnancy?

a. Yes

b. No

c. Not sure

12). What could motivate you to take IFA supplements more consistently?

a. More information about the bene

b. fits

c. Fewer side effects

d. Encouragement from family members

e. Regular reminders from healthcare providers

f. Other (Please specify) _____

13). Would you recommend IFA supplementation to other pregnant women in your community?

a. Yes

b. No

c. Not sure

Tool 2B): Modified Morisky 8-item Medication Adherence Questionnaire

Question	**Response (Yes/No)**	**Score Yes= 0 No=1**
Q1. Do you ever forget to take your IFA tablet?		
Q2. In the last week, was there any day when you didn't take your IFA tablet?		
Q3. Have you ever reduced or completely stopped taking your IFA tablet without telling your doctor because it made you feel worse?		
Q4. When you go somewhere or leave home, do you sometimes forget to bring your IFA tablet along with you?		
Q5. Did you forget to IFA tablet yesterday?		

Q6. When you feel better, do you sometimes stop taking your IFA tablets?		
Q7. Is it difficult for you to take the tablet every day during pregnancy?		
Q8. Do you have difficulty remembering to take your IFA tablets daily?		
	Total Score	

Scoring and Interpretation:

- Total Score: Add up all the points from the 8 questions.

  Range: 0 to 8

Interpretation of Score:

- **High Adherence: Score - 8**

  (The patient shows excellent adherence to prescribed medications.)

- **Medium Adherence: Score -6-7**

  (The patient has minor issues with adherence, which may affect treatment outcomes.)

- **Low Adherence: Score <6**

  (The patient has significant non-adherence, requiring interventions such as counselling or medication management support.)

Tool 3A: Knowledge and Awareness about IFA Supplementation

1). What does IFA stand for?

a. Iron Folic Acid

b. Iron Folate Aid

c. Immunization and Folic Acid

d. None of the above

2). At what stage of pregnancy should IFA supplementation ideally begin?

a. First trimester

b. Second trimester

c. Third trimester

d. Before pregnancy

3). How often should a pregnant woman take IFA supplements?

a. Once a day

b. Twice a day

c. Once a week

d. Every alternate day

4). How long should a pregnant woman continue taking IFA supplements?

a. Until delivery

b. Only during the first trimester

c. For six months after delivery

d. Throughout lactation

5). What is the main benefit of IFA supplementation during pregnancy?

a. Preventing infections

b. Preventing anemia

c. Preventing nausea

d. Preventing back pain

6). How does IFA supplementation help the baby during pregnancy?

a. Prevents birth defects

b. Supports brain development

c. Helps in proper growth

d. All of the above

7). Which of these help the body absorb iron better?

a. Citrus fruits and leafy greens

b. Bananas and potatoes

c. Apples and carrots

d. Watermelon and cucumbers

Q8. Which foods should not be consumed with IFA tablets?

a. Milk and dairy products

b. Berries and Amla

c. Green leafy vegetables

d. Orange and Guava

Q9. What side effects may a pregnant woman experience after taking IFA tablets?

a. Increased energy levels and reduced fatigue.

b. Nausea, constipation, black stool or stomach upset.

c. Decreased risk of preterm labor and delivery complications.

d. Improved appetite and weight gain.

Q10.What should a pregnant woman do if she experiences side effects from IFA supplements?

a. Stop taking them immediately

b. Increase the dose

c. Reduce the dose

d. Take them with a meal or a light snack

Q.No.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10
Answer	A	B	A	A	B	D	A	A	B	D

Scoring:

Each corrected response will be scored as one and incorrect or not answered is scored Zero. The level of knowledge will be interpreted as 0-33% Poor,33-67% average and >67% good.

Tool 3B: Beliefs and Attitudes towards IFA Supplementation

Instruction: Place a tick (✓) marks in the appropriate column.

S.No.	Instruction	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
1.	I believe that the IFA supplied by Government through AWW/ANM/ASHA is of best quality.					
2.	I believe that the IFAS is required in pregnancy for better outcomes in both mother and Baby					
3.	I believe that IFAS should be prescribed only to anaemic women.					
4.	I believe that taking iron rich food is far better than taking IFA tablet.					
5.	I believe that IFAS does more harm than benefit to the mother and baby					
6	I believe that taking IFAs will help me recover from the blood loss during delivery.					
7.	I believe that taking IFAs will lead to darker skin colour of the baby					
8.	I believe that taking IFAs will improve my work capacity.					
9.	I believe pregnancy is a natural phenomenon and additional supplements of any drug is not necessary.					
10.	I believe that Taking IFAs will lead to excessive weight gain in pregnancy ultimately leading to operative delivery					

Scoring:

Maximum score 50 and minimum score 10.

Interpretation of Scores:

Negative Attitude (10-20): A score in this range indicates a more negative or unfavorable attitude toward the subject.

Neutral Attitude (21-35): A score in this range indicates a neutral or indifferent attitude—neither strongly positive nor negative.

Positive Attitude (≥36): A score in this range indicates a positive or favorable attitude toward the subject.

ANNEXURE 2

खंड ए: सामाजिक जनसांख्यिकीय प्रोफ़ाइल:

1. आयु (वर्षों में) _____

2. वैवाहिक स्थिति-

   a. विवाहित
   b. अविवाहित
   c. तलाकशुदा
   d. अलग/वैवाहिक कलह

3. धर्म –

   a. हिंदू
   b. मुस्लिम
   c. ईसाई
   d. अन्य (निर्दिष्ट करें) _____

4. शैक्षणिक स्थिति-

a. पढ़ और लिख नहीं सकते

b. केवल पढ़ना और लिखना (प्राथमिक शिक्षा 1-5)

c. माध्यमिक शिक्षा (6-10)

d. उच्चतर माध्यमिक (11-12)

e. स्नातक

f. स्नातकोत्तर और उससे ऊपर.

5.परिवार का प्रकार (कृपया परिवार के सदस्यों के रिश्ते का उल्लेख करें)

a. एकल परिवार (जीवनसाथी, बच्चे)

b. संयुक्त परिवार (यदि हाँ, तो परिवार के सदस्यों की संख्या बताइये: _____)

c. विस्तारित परिवार (यदि हां, तो परिवार के सदस्यों की संख्या निर्दिष्ट करें: _____)

6. आप किस प्रकार के निवास में रहते हैं-

a. मातृ निवास

b. पति का निवास

c. स्वयं का निवास

d. अन्य (कृपया बताएँ): _____

7a. मुखिया की शिक्षा और स्कोर तालिका:

क्र. सं.	**मुखिया की शिक्षा**	**स्कोर**	**उत्तर**
1	पेशेवर या ऑनर्स	7	
2	स्नातक	6	
3	इंटरमीडिएट या डिप्लोमा	5	
4	हाई स्कूल प्रमाणपत्र	4	
5	मिडिल स्कूल प्रमाणपत्र	3	
6	प्राथमिक स्कूल प्रमाणपत्र	2	
7	निरक्षर	1	

b. परिवार के मुखिया का व्यवसाय-

क्र. सं.	परिवार के मुखिया का व्यवसाय	स्कोर	उत्तर
1	विधायक, वरिष्ठ अधिकारी और प्रबंधक	10	
2	पेशेवर	9	
3	तकनीशियन और सहयोगी पेशेवर	8	
4	लिपिक	7	
5	कुशल श्रमिक और दुकान एवं बाजार विक्रेता	6	
6	कुशल कृषि और मत्स्य कर्मी	5	
7	हस्तशिल्प और संबंधित व्यापार कर्मी	4	
8	संयंत्र और मशीन ऑपरेटर एवं असेम्बलर	3	
9	प्राथमिक व्यवसाय	2	
10	बेरोजगार	1	

c. परिवार की मासिक आय:

क्र.सं.	परिवार की मासिक आय	स्कोर	उत्तर
1	≥184,376	12	
2	92,191 - 184,370	10	
3	68,967 - 92,185	6	
4	46,095 - 68,961	4	
5	27,654 - 46,089	3	
6	9,232 - 27,648	2	
7	≤9,226	1	

कुप्पुस्वामी सामाजिक-आर्थिक स्थिति मापदंड:

क्र.सं.	सामाजिक-आर्थिक स्थिति	स्कोर	उत्तर
1	उच्च (I)	26-29	
2	उच्च मध्य (II)	16-25	
3	निम्न मध्य (III)	11-15	
4	उच्च निम्न (IV)	5-10	
5	निम्न (V)	<5	

अनुभाग बी: गर्भावस्था और स्वास्थ्य प्रणाली से संबंधित विशेषताएँ

एएनसी पंजीकरण संख्या: _____

1. एलएमपी (अंतिम मासिक धर्म का पहला दिन): _____

2. गर्भधारण संख्या (गर्भवती होने की कुल संख्या): _____

3. पेरिटी (28 सप्ताह या 7 पूर्ण महीनों तक गर्भधारण की संख्या): _____

4. गर्भपात का इतिहास: हाँ/नहीं

यदि हाँ, तो कारण निर्दिष्ट करें: _____

5. पिछले एनीमिया का इतिहास (यदि हाँ, तो निर्दिष्ट करें): _____

6. वर्तमान गर्भावस्था में सबसे हालिया हीमोग्लोबिन (Hb) स्तर: _____

7. वर्तमान गर्भावस्था में आईएफएएस (IFAS) शुरू करने का महीना (गर्भकालीन सप्ताह): _____

8. एएनसी पंजीकरण का समय (गर्भावस्था के कितने सप्ताह/महीने में): _____

9. अब तक पूरी की गई एएनसी विजिट की संख्या: _____

10. क्या आपने विवाह के बाद या पिछली गर्भावस्था में आईएफएएस का सेवन किया था?

a. हाँ
b. नहीं

11. क्या आप प्रधानमंत्री मातृ वंदना योजना के लिए पंजीकृत हैं?

a. हाँ
b. नहीं

12. क्या आप अपने आंगनवाड़ी केंद्र (AWC) में एएनसी खाद्य आपूर्ति प्राप्त करने वाले लाभार्थी हैं?

a. हाँ
b. नहीं

13. स्वास्थ्य केंद्र का नाम: साइबाबा नगर/बरखेड़ा पतानी

14. क्या जिस स्वास्थ्य केंद्र से आप आईएफएएस प्राप्त करते हैं, वह आपके लिए आसानी से पहुंच योग्य है?

a. हाँ

b. नहीं

15. क्या आपको गर्भावस्था के दौरान आईएफएएस जारी रखने के लिए कोई फॉलो-अप रिमाइंडर या समर्थन मिला है?

a. हाँ

b. नहीं

16. क्या आपने आईएफएएस प्राप्त करने के दौरान स्वास्थ्य केंद्र में लंबा इंतजार किया है?

a. हाँ

b. नहीं

17. आपके स्थानीय स्वास्थ्य केंद्र या क्लिनिक में आईएफए पूरक की उपलब्धता को आप कैसे रेट करेंगे?

a. आसानी से उपलब्ध

b. कभी-कभी उपलब्ध

c. उपलब्ध नहीं

d. उपलब्ध लेकिन अच्छी गुणवत्ता का नहीं

टूल 2: (क) दवा से संबंधित कारक

साक्षात्कार की तिथि: _____

प्रिस्क्रिप्शन की तिथि: _____

1) अब तक निर्धारित कुल गोलियों की संख्या: _____

2) अब तक खाई गई कुल गोलियों की संख्या: _____

a. खाली स्ट्रिप्स की संख्या: _____

b. उपयोग न की गई स्ट्रिप्स की संख्या: _____

c. फेंकी गई स्ट्रिप्स: _____

d. याद नहीं: _____

3) आप आमतौर पर अपनी आईएफए गोलियां कहां से प्राप्त करते हैं?

a. सरकारी स्वास्थ्य केंद्र (जैसे, पीएचसी, आंगनवाड़ी)

b. निजी स्वास्थ्य सेवा प्रदाता

c. स्थानीय फार्मेसियां

d. सामुदायिक स्वास्थ्य कार्यकर्ता

e. अन्य (कृपया निर्दिष्ट करें) _____

4) क्या आपको आयरन और फोलिक एसिड सप्लीमेंट्स के लिए भुगतान करना पड़ा, और यदि हां, तो क्या लागत आपके लिए वहन योग्य थी?

a. हाँ, वहन योग्य

b. हाँ, वहन नहीं कर सकती

c. नहीं, निःशुल्क

5) क्या आपने आईएफएएस लेने के बाद मतली या कब्ज जैसे कोई दुष्प्रभाव अनुभव किए हैं?

a. हाँ

b. नहीं

6) क्या आपको आयरन और फोलिक एसिड की गोलियों का स्वाद स्वीकार्य लगता है?

a. हाँ

b. नहीं

7) क्या आपको अनुशंसित समय पर रोजाना गोलियां लेना कठिन लगता है?

a. हाँ

b. नहीं

8) आपको आईएफए सप्लीमेंट्स लेने के लिए कौन प्रेरित करता है? (सभी लागू विकल्प चुनें)

a. परिवार के सदस्य (पति, सास आदि)

b. स्वास्थ्य सेवा प्रदाता (डॉक्टर, नर्स, दाई)

c. मित्र या सहकर्मी

d. कोई नहीं

e. अन्य (कृपया निर्दिष्ट करें) _____

9) क्या आपको लगता है कि यदि आपको अधिक प्रोत्साहन या अनुस्मारक मिलते, तो आप आईएफए सप्लीमेंट्स को अधिक नियमित रूप से लेते?

a. हाँ

b. नहीं

c. शायद

10) क्या किसी ने आपको आईएफए सप्लीमेंट्स के संभावित लाभ या दुष्प्रभावों के बारे में समझाया है?

a. हाँ, एक स्वास्थ्य सेवा प्रदाता ने समझाया

b. हाँ, परिवार या दोस्तों ने समझाया

c. नहीं, किसी ने नहीं समझाया

11) क्या आप अपनी पूरी गर्भावस्था के दौरान आईएफए सप्लीमेंट्स लेना जारी रखने की योजना बना रहे हैं?

a. हाँ

b. नहीं

c. निश्चित नहीं

12) आपको आईएफए सप्लीमेंट्स को अधिक नियमित रूप से लेने के लिए क्या प्रेरित कर सकता है?

a. इसके लाभों के बारे में अधिक जानकारी

b. कम दुष्प्रभाव

c. परिवार के सदस्यों से प्रोत्साहन

d. स्वास्थ्य सेवा प्रदाताओं से नियमित अनुस्मारक

e. अन्य (कृपया निर्दिष्ट करें) _____

13) क्या आप अपने समुदाय की अन्य गर्भवती महिलाओं को आईएफए सप्लीमेंट लेने की सिफारिश करेंगी?

a. हाँ

b. नहीं

c. निश्चित नहीं

टूल 2B: संशोधित मोरिस्की 8-आइटम दवा पालन प्रश्नावली

प्रश्न	उत्तर (हाँ/नहीं)	स्कोर (हाँ = 0, नहीं = 1)
Q1. क्या आप कभी अपनी आईएफए टैबलेट लेना भूल जाते हैं?		
Q2. पिछले सप्ताह, क्या कोई ऐसा दिन था जब आपने अपनी आईएफए टैबलेट नहीं ली?		
Q3. क्या आपने कभी अपनी आईएफए टैबलेट लेना कम कर दिया या पूरी तरह से बंद कर दिया क्योंकि इससे आपको असहज महसूस हुआ, और आपने अपने डॉक्टर को नहीं बताया?		
Q4. जब आप कहीं बाहर जाते हैं या घर से बाहर होते हैं, तो क्या कभी आप अपनी आईएफए टैबलेट ले जाना भूल जाते हैं?		
Q5. क्या आप कल अपनी आईएफए टैबलेट लेना भूल गए थे?		
Q6. जब आप बेहतर महसूस करते हैं, तो क्या आप कभी अपनी आईएफए टैबलेट लेना बंद कर देते हैं?		
Q7. क्या आपके लिए गर्भावस्था के दौरान हर दिन टैबलेट लेना कठिन है?		
Q8. क्या आपको अपनी आईएफए टैबलेट रोज़ाना लेने में कठिनाई होती है?		
कुल स्कोर		

स्कोरिंग और व्याख्या:

कुल स्कोर: सभी 8 प्रश्नों के अंकों को जोड़ें।

स्कोर रेंज: 0 से 8

स्कोर की व्याख्या:

a. **उच्च अनुपालन:** स्कोर – 8 (रोगी निर्धारित दवाओं के लिए उत्कृष्ट अनुपालन दिखाता है।)
b. **मध्यम अनुपालन:** स्कोर - 6-7 (रोगी को मामूली अनुपालन समस्याएं हैं, जो उपचार के परिणामों को प्रभावित कर सकती हैं।)
c. **निम्न अनुपालन:** स्कोर <6(रोगी में महत्वपूर्ण गैर-अनुपालन है, जिसके लिए परामर्श या दवा प्रबंधन सहायता की आवश्यकता हो सकती है।)

उपकरण 3A: आईएफए अनुपूरण के बारे में ज्ञान और जागरूकता

1. IFA का पूरा नाम क्या है?

a. आयरन फोलिक एसिड

b. आयरन फोलेट एड

c. टीकाकरण और फोलिक एसिड

d. उपरोक्त में से कोई नहीं

2. गर्भावस्था के किस चरण में IFA अनुपूरण आदर्श रूप से शुरू होना चाहिए?

a. पहली तिमाही

b. दूसरी तिमाही

c. तीसरी तिमाही

d. गर्भावस्था से पहले

3.गर्भवती महिला को IFA अनुपूरण कितनी बार लेना चाहिए?

a. दिन में एक बार

b. दिन में दो बार

c. सप्ताह में एक बार

d. एक दिन छोड़कर एक दिन

4.गर्भवती महिला को कितने समय तक IFA अनुपूरण जारी रखना चाहिए?

a. डिलीवरी तक

b. केवल पहली तिमाही के दौरान

c. डिलीवरी के बाद छह महीने तक

d. पूरी स्तनपान अवधि के दौरान

5.गर्भावस्था के दौरान IFA अनुपूरण का मुख्य लाभ क्या है?

a. संक्रमण को रोकना

b. एनीमिया को रोकना

c. मतली को रोकना

d. पीठ दर्द को रोकना

6.गर्भावस्था के दौरान IFA अनुपूरण बच्चे की कैसे मदद करता है?

a. जन्म दोषों को रोकता है

b. मस्तिष्क के विकास में सहायता करता है

c. उचित वृद्धि में मदद करता है

d. उपरोक्त सभी

7.इनमें से कौन सा तत्व शरीर को आयरन को बेहतर अवशोषित करने में मदद करता है?

a. खट्टे फल और हरी पत्तेदार सब्जियाँ

b. केले और आलू

c. सेब और गाजर

d. तरबूज और खीरा

8.IFA टैबलेट के साथ कौन से खाद्य पदार्थों का सेवन नहीं करना चाहिए?

a. दूध और डेयरी उत्पाद

b. जामुन और आंवला

c. हरी पत्तेदार सब्जियाँ

d. संतरा और अमरूद

9.गर्भवती महिला को IFA टैबलेट लेने के बाद कौन से दुष्प्रभाव हो सकते हैं?

a. ऊर्जा का स्तर बढ़ना और थकान कम होना

b. मतली, कब्ज, काले मल या पेट खराब होना

c. प्रीटर्म लेबर और डिलीवरी की जटिलताओं का कम जोखिम

d. भूख में सुधार और वजन बढ़ना

10.यदि गर्भवती महिला को IFA अनुपूरण से कोई दुष्प्रभाव होता है, तो उसे क्या करना चाहिए?

a. तुरंत लेना बंद कर देना

b. खुराक बढ़ा देना

c. खुराक कम कर देना

d. भोजन या हल्के नाश्ते के साथ लेना

उत्तर तालिका

प्रश्न संख्या	1	2	3	4	5	6	7	8	9	10
उत्तर	A	B	A	A	B	D	A	A	B	D

स्कोरिंग और व्याख्या:

प्रत्येक सही उत्तर के लिए 1 अंक दिया जाएगा और गलत उत्तर या उत्तर न देने पर 0 अंक मिलेगा।

ज्ञान स्तर की व्याख्या:

0-33: खराब ज्ञान स्तर

33-67: औसत ज्ञान स्तर

>67: अच्छा ज्ञान स्तर

उपकरण 3B: IFA अनुपूरण के प्रति विश्वास और दृष्टिकोण

निर्देश: उपयुक्त कॉलम में ✓ चिह्न लगाएँ।

क्र. सं.	वाक्य	पूरी तरह सहमत	सहमत	न सहमत, न असहमत	असहमत	पूरी तरह असहमत
1	मेरा मानना है कि आंगनवाड़ी कार्यकर्ता (AWW)/ANM/ASHA द्वारा सरकार द्वारा आपूर्ति किए गए IFA की गुणवत्ता सर्वोत्तम है।					
2	मेरा मानना है कि IFA गर्भावस्था में माँ और बच्चे दोनों के लिए बेहतर परिणाम के लिए आवश्यक है।					
3	मेरा मानना है कि IFA केवल एनीमिक महिलाओं को ही दिया जाना चाहिए।					
4	मेरा मानना है कि आयरन युक्त भोजन लेना IFA टैबलेट लेने से कहीं बेहतर है।					
5	मेरा मानना है कि IFA का सेवन माँ और बच्चे को लाभ से अधिक हानि पहुँचाता है।					
6	मेरा मानना है कि IFA लेने से प्रसव के दौरान रक्तस्राव से उबरने में मदद मिलेगी।					
7	मेरा मानना है कि IFA लेने से बच्चे का रंग गहरा हो जाएगा।					
8	मेरा मानना है कि IFA लेने से मेरी कार्य क्षमता में सुधार होगा।					

9	मेरा मानना है कि गर्भावस्था एक प्राकृतिक प्रक्रिया है और किसी भी दवा का अतिरिक्त अनुपूरण आवश्यक नहीं है।					
10	मेरा मानना है कि IFA लेने से गर्भावस्था में अत्यधिक वजन बढ़ जाएगा, जिससे सर्जिकल डिलीवरी की संभावना बढ़ेगी।					

स्कोरिंग:

अधिकतम स्कोर 50 और न्यूनतम स्कोर 10 है।

पूर्णतः सहमत (Strongly Agree) = 5 अंक

सहमत (Agree) = 4 अंक

न तो सहमत, न असहमत (Neither Agree nor Disagree) = 3 अंक

असहमत (Disagree) = 2 अंक

- पूर्णतः असहमत (Strongly Disagree) = 1 अंक

वस्तुएँ 3,5,7,10 को विपरीत स्कोर किया जाएगा।

स्कोर व्याख्या:

36 या उससे अधिक स्कोर → सकारात्मक दृष्टिकोण माना जाता है।

20-35% स्कोर → औसत दृष्टिकोण माना जाता है।

20% से कम स्कोर → नकारात्मक दृष्टिकोण माना जाता है और सुधार की आवश्यकता होती है।

ANNEXURE 3

LETTER SEEKING PERMISSION FOR TOOL VALIDATION

CERTIFICATE OF VALIDATION

This is to certify that the tool constructed by, Ramcharan Bairwa, M.Sc. Nursing 2023 batch student, Nursing College, AIIMS Bhopal, to be used in his study titled "Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District" has been validated by me and is found to be valid/ not valid.

Overall remark: Content in tools are very relevant some suggestion are provided in knowledge questionnaire.

Signature:

Name of the expert: Dr. Shweta Patel.

Designation: Associate Professor, OBG Dept.

Name of the institution: AIIMS Bhopal.

Official seal:

Dr. SHWETA PATEL
Reg.No.MP-866: MBBS,MD,FMAS
Associate Professor
Dept. of Obstetrics & Gynaecology
AIIMS,Bhopal-462020 (M.P.)

Date: 11/3/24.

Place: Bhopal.

ANNEXURE 4

LIST OF EXPERTS FOR CONTENT VALIDATION OF THE TOOL

Sl. No.	Name of experts	Institution	Department	Designation
1.	Dr. Mamta Nebhinai	AIIMS Jodhpur	Community Health Nursing	Assistant Professor
2.	Dr. Krishnaveni R	AIIMS Patna	Community Health Nursing	Assistant Professor
3.	Dr. Abhijit Pakhare	AIIMS Bhopal	Community Medicine	Associate Professor
4.	Dr. Ajay Halder	AIIMS Bhopal	Obstetrics and Gynaecology	Additional Professor
5.	Dr. Shweta Patel	AIIMS Bhopal	Obstetrics and Gynaecology	Associate Professor
6.	Dr. Lily Podder	AIIMS Bhopal	Obstetrics and Gynaecology Nursing	Associate Professor
7.	Mrs. Geeta Bhardwaj	AIIMS Bhopal	Obstetrics and Gynaecology Nursing	Assistant Professor
8.	Dr. Jalinder Singh	AIIMS Bhopal	Senior Resident of CFM Department AIIMS Bhopal	Senior resider

ANNEXURE 5

CRITERIA CHECKLIST FOR THE VALIDATION OF THE TOOL

Dear, experts

This study consists of structured sociodemographic proforma and standardized questionnaires to assess the magnitude of adherence to iron folic acid supplementation regimen and to identify the factors associated with adherence to IFA supplementation regimen among pregnant women in Bhopal.

Sociodemographic proforma contains of 2 parts, which require validation.

Section A: Sociodemographic characteristics

Section B: Pregnancy and health system related characteristics.

BACKGROUND PERFORMA:
SECTION 1A: SOCIO DEMOGRAPHIC CHARACTERISTICS

It consists of total 7 items, to assess the socio demographic data of participants. We need your expert judgement on degree of relevancy of each item to the measured domains.If there is any suggestions and modification, please mention in the remark column. Your expert opinion and kind cooperation will be highly appreciated.

Item no.	Highly relevant 4	Quite Relevant 3	Somewhat relevant 2	Not relevant 1	Remarks
Item no. 1					
Item no. 2					
Item no. 3					
Item no. 4					
Item no. 5					
Item no. 6					
Item no. 7					

Suggestions, if any:

SECTION 1B:
PREGNANCY AND HEALTH SYSTEM RELATED CHARACTERISTICS:

It consists of total 17 items, to assess the pregnancy and health system characteristics. We need your expert judgement on degree of relevancy of each item to themeasured domains. If there is any suggestions and modification, please mention in the remark column. Your expert opinion and kind cooperation will be highly appreciated.

Item no.	Highly relevant4	Quite Relevant 3	Somewhat relevant 2	Not relevant 1	Remarks
Item no. 1					
Item no. 2					
Item no. 3					
Item no. 4					
Item no. 5					
Item no. 6					
Item no. 7					
Item no. 8					
Item no. 9					
Item no.10					
Item no. 11					
Item no. 12					
Item no.13					
Item no. 14					
Item no. 15					

Suggestions, if any:

SECTION 2A:

MEDICATION RELATED FACTORS:

It consists of total 13 items, to assess factors related to Iron folic Acid supplementation. We need your expert judgement on degree of relevancy of each item to themeasured domains. If there is any suggestions and modification, please mention in the remark column. Your expert opinion and kind cooperation will be highly appreciated.

Item no.	Highly relevant 4	Quite Relevant 3	Somewhat relevant 2	Not relevant 1	Remarks
Item no. 1					
Item no. 2					
Item no. 3					
Item no. 4					
Item no. 5					
Item no. 6					
Item no. 7					
Item no. 8					
Item no. 9					
Item no.10					
Item no. 11					
Item no. 12					
Item no.13					

Suggestions, if any:

SECTION 2B:

MORISKY MEDICATION ADHERENCE SCALE:

It consists of total 08 items, to determine the level of adherence to Iron and Folic Acid Supplementation (IFAS) among pregnant women. We need your expert judgement on degree of relevancy of each item to themeasured domains. If there is any suggestions and modification, please mention in the remark column. Your expert opinion and kind cooperation will be highly appreciated.

Item no.	Highly relevant 4	Quite Relevant 3	Somewhat relevant 2	Not relevant 1	Remarks
Item no. 1					
Item no. 2					
Item no. 3					
Item no. 4					
Item no. 5					
Item no. 6					
Item no. 7					
Item no. 8					

Suggestions, if any:

SECTION 3A:

KNOWLEDGE QUESTIONNAIRE:

It consists of total 10 items, to assess the level of knowledge about IFA Supplementation and anemia during pregnancy. We need your expert judgement on degree of relevancy of each item to themeasured domains. If there is any suggestions and modification, please mention in the remark column. Your expert opinion and kind cooperation will be highly appreciated.

Item no.	Highly relevant 4	Quite Relevant 3	Somewhat relevant 2	Not relevant 1	Remarks
Item no. 1					
Item no. 2					
Item no. 3					
Item no. 4					
Item no. 5					
Item no. 6					
Item no. 7					
Item no. 8					
Item no.9					
Item no.10					

Suggestions, if any:

SECTION 3B:

ATTITUDE TOWARDS IFA SUPPLEMENTATION IN PREGNANCY:

It consists of total 10 items, to assess attitudes towards IFA Supplementation during pregnancy. We need your expert judgement on degree of relevancy of each item to themeasured domains. If there is any suggestions and modification, please mention in the remark column. Your expert opinion and kind cooperation will be highly appreciated.

Item no.	Highly relevant 4	Quite Relevant 3	Somewhat relevant 2	Not relevant 1	Remarks
Item no. 1					
Item no. 2					
Item no. 3					
Item no. 4					
Item no. 5					
Item no. 6					
Item no. 7					
Item no. 8					
Item no.9					
Item no.10					

ANNEXURE 6

CERTIFICATE OF VALIDATION FOR

TOOL

This is to certify that the tool constructed by Ramcharan Bairwa, M.Sc. Nursing (2023batch) student, Nursing College, AIIMS Bhopal, to be used in the study titled "Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District" has been validated by me and is found to be valid/ not valid.

Overall remark:

Signature:

Name of the expert:

Designation:

Name of the institution:

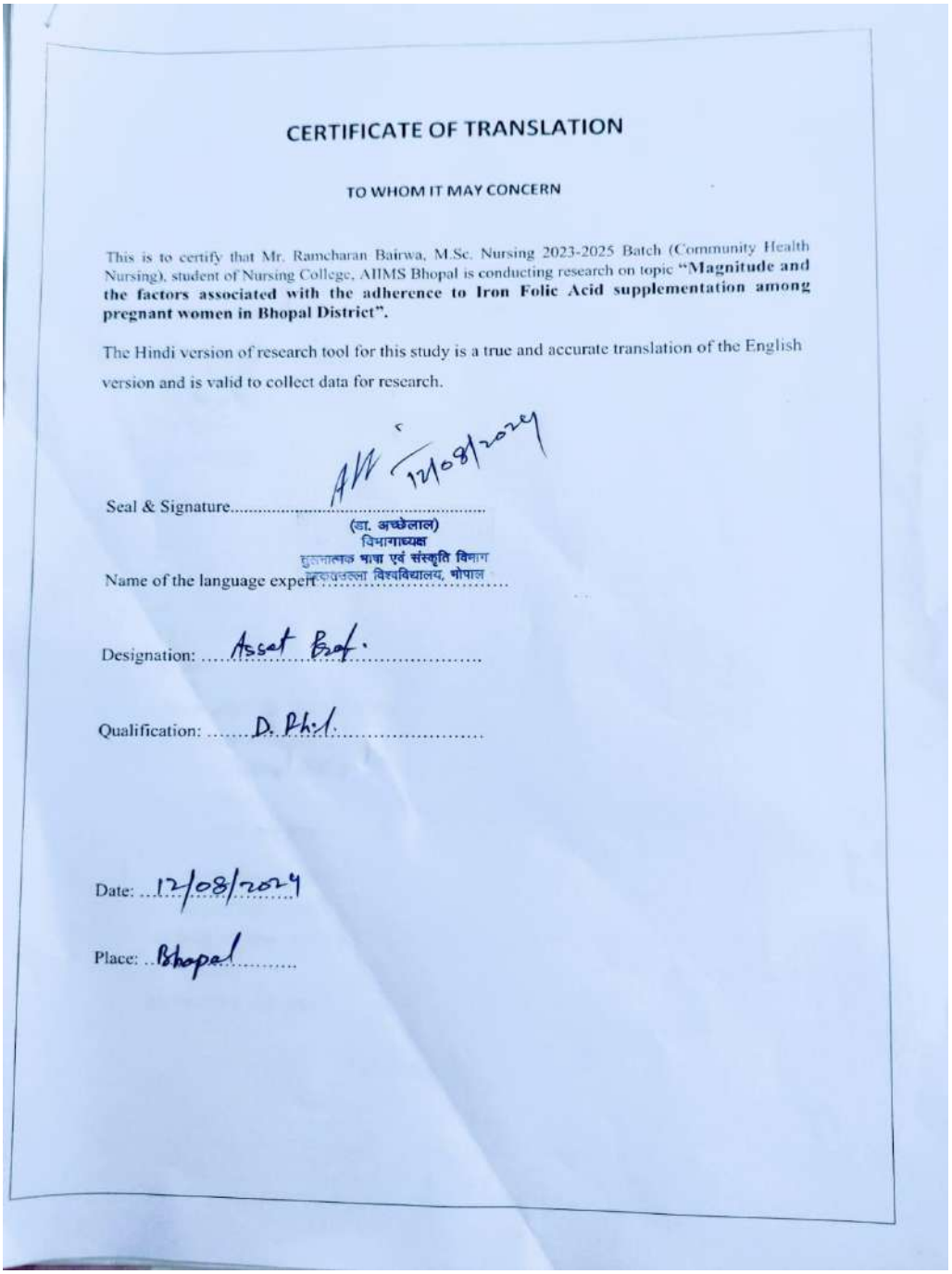
Official seal:

Date:

Place:

ANNEXURE 7

LANGUAGE VALIDATION CERTIFICATE



CERTIFICATE OF TRANSLATION

TO WHOM IT MAY CONCERN

This is to certify that Mr. Ramcharan Bairwa, M.Sc. Nursing 2023-2025 Batch (Community Health Nursing), student of Nursing College, AIIMS Bhopal is conducting research on topic **"Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District".**

The Hindi version of research tool for this study is a true and accurate translation of the English version and is valid to collect data for research.

12/08/2024

Seal & Signature.....

(डा. अच्छेलाल)
विभागाध्यक्ष
तुलनात्मक भाषा एवं संस्कृति विभाग
मौलाना आजाद राष्ट्रीय उर्दू विश्वविद्यालय, भोपाल

Name of the language expert.....

Designation: Asst Prof.

Qualification: D. Phil.

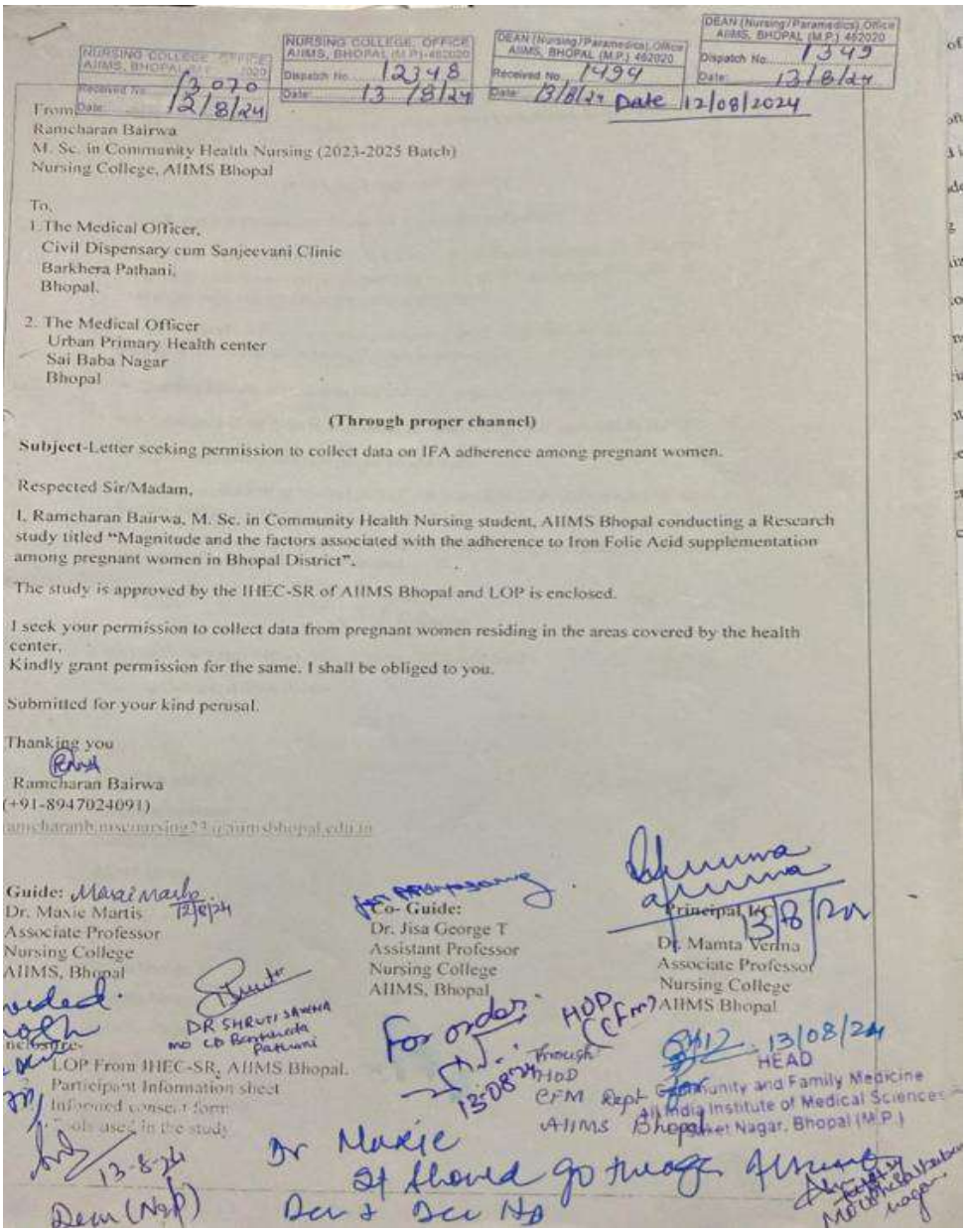
Date: 12/08/2024

Place: Bhopal

ANNEXURE 8

a

LETTER SEEKING PERMISSION TO CONDUCT THE SYUDY



NURSING COLLEGE OFFICE AIIMS, BHOPAL (M.P.)-462020 Received No. 3070 Date 12/8/24

NURSING COLLEGE OFFICE AIIMS, BHOPAL (M.P)-462020 Dispatch No. 1248 Date 13/8/24

DEAN (Nursing/Paramedical) Office AIIMS, BHOPAL (M.P.) 462020 Received No. 1494 Date 13/8/24

DEAN (Nursing/Paramedics) Office AIIMS, BHOPAL (M.P.) 462020 Dispatch No. 1343 Date 13/8/24

From Date 12/08/2024

Ramcharan Bairwa
M. Sc. in Community Health Nursing (2023-2025 Batch)
Nursing College, AIIMS Bhopal

To,
1. The Medical Officer,
Civil Dispensary cum Sanjeevani Clinic
Barkhera Pathani,
Bhopal.

2. The Medical Officer
Urban Primary Health center
Sai Baba Nagar
Bhopal

(Through proper channel)

Subject-Letter seeking permission to collect data on IFA adherence among pregnant women.

Respected Sir/Madam,

I, Ramcharan Bairwa, M. Sc. in Community Health Nursing student, AIIMS Bhopal conducting a Research study titled "Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District".

The study is approved by the IHEC-SR of AIIMS Bhopal and LOP is enclosed.

I seek your permission to collect data from pregnant women residing in the areas covered by the health center.
Kindly grant permission for the same. I shall be obliged to you.

Submitted for your kind perusal.

Thanking you

Ramcharan Bairwa
(+91-8947024091)
ramcharanb.nsc.nursing23@aiimsbhopal.edu.in

Guide: Maxie Martis 12/8/24
Dr. Maxie Martis
Associate Professor
Nursing College
AIIMS, Bhopal

Co- Guide:
Dr. Jisa George T
Assistant Professor
Nursing College
AIIMS, Bhopal

Principal In-
Dr. Mamta Verma
Associate Professor
Nursing College
AIIMS Bhopal

DR SHRUTI SAXENA MO CD Barkhera Pathani

For order. HOD (CFM) Through HOD CFM Dept. of Community and Family Medicine AIIMS Bhopal 13/08/24 HEAD All India Institute of Medical Sciences Saket Nagar, Bhopal (M.P.)

LOP From IHEC-SR, AIIMS Bhopal.
Participant Information sheet
Informed consent form
Tools used in the study

13-8-24

Dr Maxie
It should go through
Dean (Nsg)
Dean & Dean Nsg

Participant Information Sheet (Annexure 9)

1. STUDY TITLE: - "Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal district**".**

2. STUDY INVESTIGATORS:

a) **Student:** Ramcharan Bairwa, Community Health Nursing, M.Sc. nursing first year, AIIMS Bhopal.

b) **Guide**: Dr. Naseema Shafaqat, Assistant Professor, Nursing College, AIIMS Bhopal.

c) **Co - Guide:** Mrs. Ranjana Verma, Assistant Professor, Nursing College, AIIMS Bhopal.

3.Introduction:

We are conducting a research study, Iron and Folic acid is recommended in pregnancy in India for 180 days for best maternal and child health outcome and objective of which are -

1) To assess adherence to iron folic acid (IFA) supplementation among pregnant women attending in Bhopal and

2) To assess the factors association with IFA adherence among pregnant women.

4. Purpose of the study:

The purpose of the study is to generate evidence on the magnitude of IFA adherence and to plan measure to improve the IFA adherence among pregnant in hight of the contextual factors.

5. Taking part – what it involves

a. Do I have to take part?

Participation in this research is entirely voluntary. A decision to not take part, or to withdraw at any time, will not affect your rights for medical care in any setting.

b. What is expected of me if I take part?

If you agree to participate in the study, you will be asked to sign an informed consent form.

You will be interviewed for personal data personal data and details related to intake, clinical details. You will be asked to show your IFA strip. You will be asked to ticked the right responses in knowledge and attitude questionnaires when is to be returned after filling.

c. How long will my part in the study last?

Your participation in the study would last for 15-20 minutes. For this you don't have to come separately and repeatedly.

d. Do I have to come for extra visits or undergo extra investigations for the study?

No additional visits or extra investigations will be done for this study.

e. What are the possible benefits in taking part?

Taking part in this study will help policy makers to collectively to improve adherence and, subsequently, maximize the benefits for both the mother and the developing baby.

f. What are the possible disadvantages and risks of taking part?

There are no any specific risks/adverse effects associated with my study.

g. What happens to the information collected from me?

All information collected will be kept strictly confidential and not shared with anyone, unless deemed necessary by the competent authority. Results from the study will be reported as group data and will not identify you in any way.

h. What if I change my mind regarding participation in the study?

You are entitled to change your mind and withdraw at any time during the study without any disadvantage or penalty.

i. **Whom do I contact for more information or if I have further questions or concerns?**

If you want any information or have questions or concerns, you can contact

Ramcharan Bairwa
Post graduate student
Department of CHN
AIIMS Bhopal
8947024091

ANNEXURE 10

प्रतिभागी सूचना पत्रक (परिशिष्ट 5)

1. अध्ययन का शीर्षक: - "भोपाल जिले में गर्भवती महिलाओं के बीच आयरन-फोलिक एसिड का अनुपालन और संबंधित कारक।"

2. अध्ययन अन्वेषक:

a) **छात्र:** रामचरण बैरवा, सामुदायिक स्वास्थ्य नर्सिंग, एम. एससी. नर्सिंग प्रथम वर्ष, एम्स भोपाल।

b) **मार्गदर्शक:** डॉ. नसीमा शफकत, सहायक - प्राध्यापक, नर्सिंग कॉलेज, एम्स भोपाल।

c) **सह-मार्गदर्शक:** डॉ. रंजना वर्मा , सहायक- प्राध्यापक, नर्सिंग कॉलेज, एम्स भोपाल।

3. **परिचय:**

हम एक अनुसंधान अध्ययन का आयोजन कर रहे हैं, जिसमें भारत में गर्भावस्था के दौरान लोहा और फॉलिक एसिड का सुझाव 180 दिनों के लिए है, ताकि मातृ और शिशु स्वास्थ्य का सर्वोत्तम परिणाम हो सके। इस अध्ययन के उद्देश्य हैं -1) भोपाल में उपस्थित गर्भवती महिलाओं में आयरन फॉलिक एसिड (IFA) योजना का पालन की अनुपालन की जांच करना और 2) गर्भवती महिलाओं में IFA अनुपालन के साथ जुड़े कारकों की जांच करना।

5. अध्ययन का उद्देश्य

अध्ययन का उद्देश्य आईएफए अनुपालन की मात्रा पर साक्ष्य उत्पन्न करना और प्रासंगिक कारकों में से उच्च स्तर पर गर्भवती महिलाओं के बीच आईएफए पालन में सुधार के लिए उपाय की योजना बनाना है।

5. भाग लेना - इसमें क्या शामिल है

ए. क्या मुझे भाग लेना चाहिए?

इस शोध में भागीदारी पूरी तरह से स्वैच्छिक है। भाग नहीं लेने का निर्णय, या किसी भी समय वापस लेने का निर्णय, किसी भी सेटिंग में चिकित्सा देखभाल के लिए आपके अधिकारों को प्रभावित नहीं करेगा।

b. यदि मैं भाग लेता हूँ तो मुझसे क्या अपेक्षा की जाती है?

यदि आप अध्ययन में भाग लेने के लिए सहमत हैं, तो आपको एक सूचित सहमति फॉर्म पर हस्ताक्षर करने के लिए कहा जाएगा, व्यक्तिगत डेटा, व्यक्तिगत डेटा और सेवन, नैदानिक विवरण से संबंधित विवरण के लिए आपका साक्षात्कार लिया जाएगा। आपको अपनी आईएफए पट्टी दिखाने के लिए कहा जाएगा। आपको ज्ञान और दृष्टिकोण प्रश्नावली में सही प्रतिक्रियाओं को चिह्नित करने के लिए कहा जाएगा और भरने के बाद वापस किया जाना है।

c. अध्ययन में मेरी भूमिका कितने समय तक रहेगी?

अध्ययन में आपकी भागीदारी 15-20 मिनट तक रहेगी. इसके लिए आपको अलग-अलग और बार-बार आने की जरूरत नहीं है. ।

d. क्या मुझे अतिरिक्त दौरे के लिए आना होगा या अध्ययन के लिए अतिरिक्त जांच से गुजरना होगा?

इस अध्ययन के लिए कोई अतिरिक्त दौरा या अतिरिक्त जांच नहीं की जाएगी।

e. भाग लेने में संभावित लाभ क्या हैं?

इस अध्ययन में भाग लेने से नीति निर्माताओं को सामूहिक रूप से पालन में सुधार करने में मदद मिलेगी और बाद में, मां और विकासशील बच्चे दोनों के लिए लाभ को अधिकतम किया जाएगा।

f. भाग लेने के संभावित नुकसान और जोखिम क्या हैं?

मेरे अध्ययन से जुड़े कोई विशिष्ट जोखिम / प्रतिकूल प्रभाव नहीं हैं।

g. मुझसे एकत्रित की गई जानकारी का क्या होता है?

एकत्र की गई सभी जानकारी को सख्ती से गोपनीय रखा जाएगा और किसी के साथ साझा नहीं किया जाएगा, जब तक कि सक्षम प्राधिकारी द्वारा आवश्यक न समझा जाए। अध्ययन के परिणाम समूह डेटा के रूप में रिपोर्ट किए जाएंगे और किसी भी तरह से आपकी पहचान नहीं करेंगे।

h.यदि मैं अध्ययन में भाग लेने के संबंध में अपना मन बदल दूं तो क्या होगा?

आप अध्ययन के दौरान किसी भी समय अपना मन बदलने और बिना किसी नुकसान या दंड के पीछे

हटने के हकदार हैं।

i. मैं अधिक जानकारी के लिए या यदि मेरे कोई और प्रश्न या चिंताएँ हों तो मैं किससे संपर्क करूँ?

यदि आप कोई जानकारी चाहते हैं या कोई प्रश्न या चिंता है तो आप संपर्क कर सकते हैं

रामचरण बैरवा, सा

मुदायिक स्वास्थ्य नर्सिंग, एम. एससी. नर्सिंग प्रथम वर्ष,

एम्स भोपाल।

तारीख:

ANNEXURE 11

PARTICIPANT INFORMED CONSENT FORM

Patient’s copy

Title: ‘‘Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District’’

I have been fully informed of the above study as per the patient's information sheet. I understand that there is no major risk associated with this study. I hereby agree that I am willing to participate in the study. I also agree to allow researcher to take photographs of the researchers doing the study. I furthermore recognize the fact that I am free to withdraw this consent and to discontinue participation in this project at any time without prejudice to the treatment.

Investigator’s name:

Investigator’s signature:

Patient’s name:

Patient’s signature:

Date:

Researcher’s copy

Informed consent form

Title: ‘‘Magnitude and the factors associated with the adherence to Iron Folic Acid supplementation among pregnant women in Bhopal District’’

I have been fully informed of the above study as per the patient's information sheet. I understand that there is no major risk associated with this study. I hereby agree that I am willing to participate in the study. I also agree to allow researcher to take photographs of the researchers doing the study. I furthermore recognize the fact that I am free to withdraw this consent and to discontinue participation in this project at any time without prejudice to the treatment.

Investigator’s name:

Investigator’s signature:

Patient’s name:

Patient’s signature:

Date:

ANNEXURE 12

अनुलग्नक 4ए

सूचित सहमति प्रपत्र

रोगी की प्रति

शीर्षक: भोपाल जिले में गर्भवती महिलाओं के बीच आयरन-फोलिक एसिड सप्लीमेंटेशन के अनुपालन की मात्रा और उससे जुड़े कारक

रोगी के सूचना पत्रक के अनुसार मुझे उपरोक्त अध्ययन के बारे में पूरी जानकारी दी गई है। मैं समझता हूं कि इस अध्ययन से जुड़ा कोई बड़ा जोखिम नहीं है। मैं इस बात से सहमत हूं कि मैं अध्ययन में भाग लेने के लिए तैयार हूं। मैं शोधकर्ता को अध्ययन कर रहे शोधकर्ताओं की तस्वीरें लेने की अनुमति देने के लिए भी सहमत हूं। इसके अलावा मैं इस तथ्य को स्वीकार करता हूं कि मैं इस सहमति को वापस लेने और उपचार के प्रति पूर्वाग्रह के बिना किसी भी समय इस परियोजना में भागीदारी बंद करने के लिए स्वतंत्र हूं।

अन्वेषक का नाम:

अन्वेषक के हस्ताक्षर:

मरीज का नाम:

रोगी के हस्ताक्षर:

तारीख:

शोधकर्ता की प्रति

सूचित सहमति प्रपत्र

शीर्षक: भोपाल जिले में गर्भवती महिलाओं के बीच आयरन-फोलिक एसिड सप्लीमेंटेशन के अनुपालन की मात्रा और उससे जुड़े कारक

रोगी के सूचना पत्रक के अनुसार मुझे उपरोक्त अध्ययन के बारे में पूरी जानकारी दी गई है। मैं समझता हूं कि इस अध्ययन से जुड़ा कोई बड़ा जोखिम नहीं है। मैं इस बात से सहमत हूं कि मैं अध्ययन में भाग लेने के लिए तैयार हूं। मैं शोधकर्ता को अध्ययन कर रहे शोधकर्ताओं की तस्वीरें लेने की अनुमति देने के लिए भी सहमत हूं। इसके अलावा मैं इस तथ्य को स्वीकार करता हूं कि मैं इस सहमति को वापस लेने और उपचार के प्रति पूर्वाग्रह के बिना किसी भी समय इस परियोजना में भागीदारी बंद करने के लिए स्वतंत्र हूं।

अन्वेषक का नाम:

अन्वेषक के हस्ताक्षर:

मरीज का नाम:

रोगी के हस्ताक्षर:

तारीख:

ANNEXURE 13

INFORMATION DATA SHEET

S.No.	Date	Participant Recruited
01.	19.08.2024	12
02.	20.08.2024	09
03.	21.08.2024	12
04.	22.08.2024	13
05.	27.08.2024	18
06.	28.08.2024	18
07.	29.08.2024	26
08.	30.08.2024	15
09.	31.08.2024	23
10.	02.09.2024	18
11.	03.09.2024	18
12.	04.09.2024	09
13.	05.09.2024	16
14.	06.09.2024	09
15.	07.09.2024	14
16.	09.09.2024	14
17.	10.09.2024	11
18.	11.09.2024	09
19.	12.09.2024	09
20.	13.09.2024	07
21.	14.09.2024	07
22.	18.09.2024	07
23.	19.09.2024	08
24.	20.09.2024	05
25.	21.09.2024	05

26.	**23.09.2024**	**06**
27.	**24.09.2024**	**05**
28.	**25.09.2024**	**03**
29.	**26.09.2024**	**15**
30.	**27.09.2024**	**08**
31.	**28.09.2024**	**09**
32.	**30.09.2024**	**07**

Annexure 14

MASTER DATA SHEET

SOCIODEMOGRAPHIC SHEETS

Code No.	Age years	Marital status	Religion	Educational status	Type of _family	Type of residence	SES
P1	2	1	2	3	2	2	2
P2	2	1	1	5	1	2	4
P3	2	1	1	4	1	2	3
P4	2	1	1	2	2	2	1
P5	2	1	2	3	2	2	1
P6	2	1	1	1	1	2	1
P7	2	1	1	4	2	2	2
P8	2	1	1	4	1	2	2
P9	1	1	1	5	1	2	4
P10	1	1	1	4	2	2	3
P11	1	1	1	4	1	2	3
P12	2	1	1	4	3	2	2
P13	2	1	2	5	2	2	4
P14	1	1	1	4	1	2	2
P15	2	1	1	4	1	2	2
P16	2	1	1	4	2	2	2
P17	2	1	1	5	1	2	3
P18	2	1	1	4	1	2	2
P19	1	1	1	4	1	2	2
P20	2	1	1	4	1	2	2
P21	1	1	1	3	2	2	2
P22	1	1	2	4	1	2	2
P23	3	1	1	4	2	2	2

P24	1	1	2	4	2	2	2
P25	1	1	2	3	2	2	1
P26	2	1	1	4	2	2	2
P27	2	1	1	4	1	2	2
P28	3	1	1	5	1	2	3
P29	1	1	2	4	2	2	2
P30	2	1	1	3	2	2	1
P31	3	1	2	3	2	2	2
P32	2	1	2	3	2	2	2
P33	2	1	2	4	2	2	3
P34	1	1	2	3	1	2	1
P35	1	1	1	4	1	1	2
P36	2	1	1	4	1	2	2
P37	1	1	1	3	2	1	1
P38	1	1	2	4	1	2	1
P39	3	1	1	3	1	2	1
P40	1	1	1	5	2	1	3
P41	1	1	2	2	1	2	2
P42	2	1	1	3	1	2	1
P43	1	1	2	3	2	2	1
P44	3	1	1	4	2	2	2
P45	2	1	1	4	1	2	2
P46	3	1	1	1	2	2	1
P47	2	1	1	3	2	2	2
P48	1	1	2	4	1	2	2
P49	3	1	1	5	1	4	3
P50	1	1	1	3	2	2	1
P51	2	1	1	4	1	2	2
P52	2	1	1	4	2	2	2
P53	2	1	1	4	2	2	2
P54	2	1	1	4	1	4	2

P55	2	1	1	5	1	2	3
P56	2	1	1	4	2	2	2
P57	2	1	1	4	1	2	2
P58	3	1	1	4	2	2	2
P59	3	1	1	5	2	2	3
P60	3	1	1	3	2	4	1
P61	3	1	1	3	1	2	1
P62	1	1	1	4	1	2	1
P63	1	1	1	4	2	2	1
P64	2	1	1	5	1	2	3
P65	2	1	1	4	2	2	2
P66	2	1	2	4	2	2	2
P67	3	1	1	5	2	2	3
P68	1	1	1	4	1	2	1
P69	2	1	1	4	2	2	1
P70	3	1	1	3	1	2	1
P71	1	1	1	3	2	2	1
P72	1	1	1	4	2	2	2
P73	3	1	1	4	1	2	2
P74	3	1	1	4	2	2	2
P75	1	1	1	4	2	2	2
P76	3	1	1	4	2	2	2
P77	2	1	1	5	1	2	3
P78	2	1	1	4	2	2	1
P79	2	1	1	4	1	2	2
P80	2	1	1	4	2	2	2
P81	2	1	1	5	1	2	3
P82	2	1	2	3	2	2	1
P83	1	1	1	4	1	4	2
P84	2	1	2	3	1	4	1
P85	2	1	1	4	2	2	2

P86	2	1	2	3	1	4	1
P87	2	1	2	3	2	2	1
P88	2	1	1	4	1	2	1
P89	2	1	1	4	1	2	1
P90	2	1	1	2	2	2	1
P91	2	1	2	3	2	2	1
P92	2	1	1	4	1	2	2
P93	1	1	1	4	1	2	2
P94	1	1	1	5	2	2	3
P95	1	1	1	4	1	2	1
P96	2	1	1	4	3	2	1
P97	2	1	2	4	2	4	1
P98	1	1	1	4	1	4	2
P99	1	1	1	4	1	2	2
P100	1	1	2	3	2	2	1
P101	2	1	1	3	1	2	1
P102	2	1	1	3	2	4	1
P103	1	1	1	4	2	4	3
P104	1	1	1	4	1	4	2
P105	1	1	1	4	2	2	2
P106	1	1	1	4	2	4	2
P107	2	1	1	5	2	2	3
P108	1	1	1	4	1	2	1
P109	2	1	1	4	2	2	2
P110	1	1	2	4	1	4	2
P111	2	1	1	4	1	4	2
P112	1	1	2	3	1	2	1
P113	3	1	2	3	2	2	1
P114	1	1	4	4	2	4	2
P115	1	1	2	3	1	4	1
P116	2	1	2	3	2	2	1

P117	1	1	1	4	1	4	2
P118	2	1	2	3	1	4	1
P119	2	1	1	4	2	2	2
P120	2	1	2	3	1	4	1
P121	2	1	1	4	2	4	2
P122	1	1	1	4	2	4	2
P123	2	1	1	4	2	4	2
P124	1	1	1	5	1	4	3
P125	2	1	1	4	1	2	1
P126	2	1	1	4	2	2	2
P127	3	1	1	4	2	4	2
P128	2	1	1	4	1	2	2
P129	1	1	2	5	2	4	3
P130	2	1	1	4	2	2	2
P131	2	1	1	4	2	2	2
P132	2	1	1	4	1	4	2
P133	3	1	2	3	2	2	1
P134	3	1	2	3	2	4	1
P135	1	1	1	4	1	4	2
P136	2	1	4	4	1	4	2
P137	3	1	1	2	2	2	1
P138	2	1	1	3	1	4	1
P139	1	1	2	3	2	2	1
P140	1	1	1	4	1	2	2
P141	2	1	1	5	2	2	4
P142	2	1	1	3	2	4	1
P143	1	1	2	4	2	2	1
P144	1	1	2	3	2	2	1
P145	2	1	1	3	2	2	1
P146	2	1	1	4	1	2	1
P147	2	1	1	4	1	4	1

P148	2	1	1	4	1	2	1
P149	2	1	1	4	2	2	1
P150	1	1	1	4	1	4	1
P151	1	1	1	4	2	4	2
P152	2	1	1	4	1	2	2
P153	3	1	2	4	2	2	2
P154	1	1	1	4	2	2	2
P155	2	1	1	5	2	2	4
P156	1	1	2	2	2	2	1
P157	1	1	1	4	2	4	1
P158	2	1	1	4	2	2	2
P159	1	1	1	5	1	2	3
P160	2	1	1	4	2	2	2
P161	1	1	2	4	1	4	2
P162	2	1	1	4	1	4	2
P163	1	1	2	3	1	2	1
P164	3	1	2	3	2	2	1
P165	1	1	4	4	2	4	2
P166	1	1	2	3	1	4	1
P167	2	1	2	3	2	2	1
P168	1	1	1	4	1	4	2
P169	2	1	2	3	1	4	1
P170	2	1	1	4	2	2	2
P171	2	1	2	3	1	4	1
P172	2	1	1	4	2	4	2
P173	1	1	1	4	2	4	2
P174	2	1	1	5	2	4	3
P175	1	1	1	4	2	2	1
P176	2	1	2	4	2	2	2
P177	2	1	2	2	2	4	1
P178	1	1	1	4	2	2	2

P179	3	1	1	2	2	2	1
P180	2	1	2	4	1	4	2
P181	1	1	1	4	1	4	2
P182	1	1	2	5	2	2	3
P183	2	1	1	4	1	4	1
P184	1	1	1	4	1	4	2
P185	2	1	1	4	1	4	2
P186	1	1	2	5	2	2	3
P187	2	1	2	4	2	2	2
P188	2	1	2	4	2	4	2
P189	1	1	1	5	1	4	3
P190	2	1	2	3	2	2	1
P191	1	1	1	4	1	4	1
P192	2	1	1	4	1	2	2
P193	2	1	1	4	2	2	2
P194	3	1	1	4	2	4	2
P195	2	1	1	4	1	2	2
P196	1	1	2	4	2	4	2
P197	2	1	1	4	2	2	2
P198	2	1	1	4	2	2	2
P199	2	1	1	4	1	4	2
P200	3	1	2	3	2	2	1
P201	3	1	2	3	2	4	1
P202	1	1	1	4	1	4	1
P203	2	1	4	4	1	4	1
P204	3	1	1	3	2	2	1
P205	2	1	1	3	1	4	1
P206	1	1	2	3	2	2	1
P207	1	1	1	4	1	2	2
P208	2	1	1	4	2	2	2
P209	2	1	1	3	2	4	1

P210	1	1	1	4	2	4	2
P211	1	1	1	4	1	4	2
P212	2	1	2	4	2	4	2
P213	1	1	1	5	1	4	3
P214	1	1	1	4	1	2	1
P215	1	1	2	3	2	2	1
P216	2	1	1	3	1	2	1
P217	1	1	1	3	1	4	1
P218	2	1	1	3	1	2	1
P219	1	1	1	4	3	4	2
P220	1	1	2	3	1	2	1
P221	2	1	1	4	1	2	2
P222	2	1	1	3	1	4	1
P223	1	1	1	3	1	2	1
P224	2	1	1	4	2	2	2
P225	1	1	1	2	2	4	1
P226	2	1	1	4	1	4	2
P227	2	1	1	4	1	2	1
P228	1	1	1	4	2	4	2
P229	1	1	1	4	1	4	2
P230	2	1	1	4	2	2	2
P231	1	1	2	4	2	1	2
P232	2	1	1	4	2	2	2
P233	1	1	1	4	1	2	2
P234	1	1	1	4	3	2	2
P235	2	1	1	3	1	4	1
P236	1	1	2	4	2	2	2
P237	2	1	1	4	1	2	2
P238	1	1	2	4	1	2	2
P239	3	1	1	4	1	4	2
P240	1	1	1	3	2	2	1

P241	2	1	1	4	1	2	2
P242	2	1	1	4	2	2	2
P243	2	1	1	4	2	2	2
P244	2	1	1	4	1	4	2
P245	2	1	1	4	1	2	2
P246	2	1	1	4	2	2	2
P247	2	1	1	4	1	2	2
P248	3	1	1	4	2	2	2
P249	3	1	1	4	2	2	2
P250	3	1	1	3	2	4	1
P251	3	1	1	3	1	2	1
P252	1	1	1	4	1	2	2
P253	1	1	1	4	2	2	2
P254	2	1	1	4	1	2	2
P255	2	1	1	4	2	2	2
P256	2	1	2	4	2	2	2
P257	3	1	1	4	2	2	2
P258	1	1	1	4	1	2	2
P259	2	1	1	4	2	2	2
P260	3	1	1	3	1	2	1
P261	1	1	1	3	2	2	1
P262	1	1	1	4	2	2	2
P263	3	1	1	5	1	2	3
P264	3	1	1	4	2	2	2
P265	1	1	1	4	2	2	2
P266	3	1	1	4	2	2	2
P267	2	1	1	2	1	2	1
P268	2	1	1	4	2	2	2
P269	2	1	1	4	1	2	2
P270	2	1	1	4	2	2	2
P271	2	1	1	4	1	2	2

P272	2	1	2	3	2	2	1
P273	1	1	1	4	1	4	2
P274	2	1	2	3	1	4	1
P275	2	1	1	4	2	2	2
P276	2	1	2	3	1	4	1
P277	2	1	2	3	2	2	1
P278	2	1	1	4	1	2	2
P279	2	1	1	4	1	2	2
P280	2	1	1	2	2	2	1
P281	2	1	2	3	2	2	1
P282	2	1	1	4	1	2	2
P283	1	1	1	4	1	2	2
P284	1	1	1	4	2	2	2
P285	1	1	1	4	1	2	2
P286	2	1	1	4	3	2	2
P287	2	1	2	4	2	4	2
P288	1	1	1	4	1	4	2
P289	1	1	1	4	1	2	2
P290	1	1	2	3	2	2	1
P291	1	1	1	4	2	2	2
P292	2	1	2	4	2	2	2
P293	2	1	2	2	2	4	1
P294	1	1	1	4	2	2	2
P295	3	1	1	2	2	2	1
P296	2	1	2	4	1	4	2
P297	1	1	1	4	1	4	2
P298	1	1	2	4	2	2	2
P299	2	1	1	4	1	4	2
P300	1	1	1	4	1	4	2
P301	2	1	1	4	1	4	2
P302	1	1	2	2	2	2	1

P303	1	1	2	3	2	2	1
P304	2	1	1	3	2	2	1
P305	2	1	1	4	1	2	2
P306	2	1	1	4	1	4	2
P307	2	1	1	4	1	2	2
P308	2	1	1	4	2	2	2
P309	1	1	1	4	1	4	2
P310	1	1	1	4	2	4	2
P311	2	1	1	4	1	2	2
P312	3	1	2	4	2	2	2
P313	1	1	1	4	2	2	2
P314	2	1	1	5	2	2	4
P315	1	1	2	2	2	2	1
P316	1	1	1	4	1	2	1
P317	2	1	2	3	1	2	1
P318	1	1	1	4	2	2	2
P319	1	1	1	3	2	2	1
P320	3	1	1	4	2	4	2
P321	4	1	1	3	2	4	1
P322	3	1	2	4	2	2	2
P323	2	1	2	3	1	2	1
P324	1	1	2	4	2	2	2
P325	1	1	2	4	2	2	2
P326	1	1	1	4	1	2	2
P327	2	1	1	3	1	2	1
P328	2	1	1	3	1	2	1
P329	1	1	1	4	2	2	2
P330	2	1	1	4	2	2	2
P331	2	1	1	4	2	2	2
P332	3	1	2	4	2	2	2
P333	3	1	2	4	2	2	2

P334	3	1	2	4	2	4	2
P335	2	1	1	4	2	2	2
P336	1	1	2	4	2	2	2
P337	1	1	1	4	1	2	2
P338	2	1	1	4	1	2	2
P339	1	1	1	4	2	2	2
P340	2	1	2	4	2	2	2
P341	3	1	1	4	1	2	2
P342	2	1	1	4	1	4	2
P343	2	1	1	4	1	2	2
P344	2	1	1	4	1	2	2
P345	1	1	1	3	1	4	1
P346	2	1	1	3	1	2	1
P347	1	1	1	4	3	4	2
P348	1	1	2	3	1	2	1
P349	2	1	1	4	1	2	2
P350	2	1	1	3	1	4	1
P351	1	1	1	3	1	2	1
P352	2	1	1	4	2	2	2
P353	1	1	1	2	1	4	1
P354	2	1	1	4	1	4	2
P355	2	1	1	4	1	2	2
P356	1	1	1	4	2	4	2
P357	1	1	1	4	1	4	2
P358	2	1	1	4	2	2	2
P359	1	1	2	5	2	1	4
P360	2	1	1	4	2	2	2
P361	1	1	1	4	1	2	2
P362	1	1	1	4	3	2	2
P363	2	1	1	3	1	4	1
P364	1	1	2	4	2	2	2

P365	2	1	1	5	1	2	3

Pregnancy and Health system related factors

P No.	Time of ANC registration	No of ANC visits	Iron consumption previous pregnancy or before marriage	PMMVY	ANC food supply	Name of health centre	Accessible of ifas	Follow up of reminders	Long waiting times at the facility	Availability of iron
1	2	3	1	1	1	2	1	1	1	1
2	3	1	1	1	1	2	1	2	2	1
3	3	3	1	1	1	1	1	1	1	1
4	2	3	1	1	1	2	1	2	2	1
5	3	1	1	1	1	1	1	1	1	3
6	3	1	1	1	1	2	1	1	1	1
7	3	3	1	1	1	1	2	2	2	1
8	4	2	1	2	1	2	1	1	1	1
9	3	3	1	1	1	2	1	1	1	1
10	4	1	1	1	2	1	1	1	1	1
11	3	4	1	1	1	1	1	1	1	1
12	2	1	1	1	1	2	1	1	1	1
13	3	3	1	1	1	1	1	1	1	1
14	4	4	1	1	1	1	1	1	1	1
15	3	1	1	1	1	2	1	2	1	1
16	3	1	1	1	1	1	2	1	1	3
17	2	1	1	1	1	1	1	2	1	1
18	3	3	1	1	1	2	1	1	1	1

19	3	1	1	1	1	1	1	1	2	1
20	3	1	1	1	1	1	1	1	1	1
21	3	3	1	1	1	2	1	1	1	1
22	3	1	1	1	1	1	1	1	1	1
23	3	1	1	1	1	2	1	2	1	1
24	2	4	1	1	1	2	1	1	1	1
25	3	4	1	1	1	2	1	1	1	1
26	3	1	1	1	1	1	1	1	2	1
27	3	3	1	1	1	1	1	2	1	1
28	4	3	2	1	1	2	2	1	1	1
29	3	1	1	1	1	1	1	1	1	1
30	3	3	1	1	1	2	1	1	2	1
31	2	4	2	2	1	1	1	1	1	1
32	3	1	1	1	1	2	1	1	1	1
33	3	3	1	1	1	2	1	1	1	1
34	3	1	1	1	1	2	1	1	1	1
35	3	3	1	1	1	2	1	1	1	1
36	2	1	1	2	2	2	1	2	1	1
37	3	3	1	1	1	1	1	2	1	1
38	3	1	1	1	1	1	1	2	1	1
39	3	3	1	1	1	2	1	1	1	1
40	4	4	1	1	1	1	1	1	1	1
41	3	3	1	1	1	2	1	1	1	1
42	3	3	1	1	1	2	1	1	2	1
43	2	3	1	1	1	1	2	1	2	1
44	3	4	2	2	1	1	1	2	1	1
45	3	3	1	1	1	2	1	2	1	1
46	3	1	1	2	1	1	1	1	1	1
47	3	3	1	2	1	1	1	1	1	1
48	3	1	1	1	1	2	1	1	1	3
49	2	1	1	1	1	1	1	1	1	1

50	3	4	1	1	1	1	1	1	1	1
51	3	3	1	1	1	1	1	1	1	1
52	3	3	1	1	1	2	1	2	1	1
53	3	1	1	2	1	1	1	1	1	1
54	3	1	1	1	1	2	1	1	1	3
55	2	1	1	1	1	1	1	1	1	1
56	3	4	1	1	1	2	1	2	1	1
57	3	1	1	1	1	2	2	2	1	1
58	3	3	1	1	1	1	1	1	1	1
59	3	1	1	1	1	1	1	1	2	1
60	3	2	1	1	1	2	1	1	1	1
61	3	1	1	1	2	1	1	2	1	3
62	3	3	1	1	1	1	1	1	1	1
63	3	3	1	1	1	1	1	1	1	1
64	3	2	1	1	1	2	1	1	1	1
65	3	1	1	1	1	1	1	2	1	1
66	3	3	1	1	1	1	1	1	1	1
67	3	2	2	1	1	2	1	1	1	1
68	3	1	1	2	1	1	1	1	1	1
69	3	1	1	1	1	2	1	1	1	3
70	3	3	1	1	1	2	2	1	1	1
71	3	2	1	2	1	2	1	1	1	1
72	3	1	1	1	1	1	1	2	1	1
73	3	3	1	1	1	1	1	1	1	1
74	3	3	1	1	1	1	1	1	2	1
75	3	1	1	1	1	2	1	1	1	1
76	2	1	1	1	1	1	1	1	1	1
77	3	4	1	1	1	1	1	1	1	1
78	3	4	1	1	1	2	1	1	1	1
79	3	3	1	2	1	1	1	1	1	1
80	3	4	1	1	1	2	1	1	1	1

81	3	2	1	1	1	2	1	1	1	1
82	3	3	1	1	2	1	1	2	1	1
83	3	3	1	1	1	1	1	1	1	1
84	3	1	1	1	1	1	2	1	1	1
85	3	2	1	1	1	2	1	2	1	1
86	3	1	1	1	1	1	1	1	1	3
87	3	1	1	1	1	1	1	1	1	1
88	3	3	1	1	1	2	1	2	2	1
89	3	2	1	1	1	1	1	1	1	1
90	4	3	1	1	1	1	1	1	2	1
91	3	3	1	1	1	2	1	1	1	1
92	2	3	1	1	1	1	1	1	1	1
93	3	1	1	1	1	1	1	1	1	1
94	3	3	1	1	1	1	1	1	1	1
95	3	1	1	1	1	2	1	2	1	4
96	3	1	1	1	1	2	1	1	1	1
97	3	2	1	1	1	1	1	1	1	1
98	3	3	1	1	1	2	1	2	1	1
99	3	3	1	1	1	1	1	1	1	1
100	3	3	1	1	1	2	1	1	1	1
101	3	3	1	1	1	1	2	1	1	1
102	3	3	1	1	1	1	1	2	2	1
103	3	1	1	1	1	1	1	1	1	3
104	4	2	1	1	1	2	1	1	1	1
105	3	3	1	1	1	1	1	1	1	1
106	3	1	1	1	1	1	1	1	1	1
107	3	3	1	1	1	2	1	1	1	1
108	3	4	2	2	2	2	1	2	1	1
109	3	1	1	1	1	1	1	1	1	2
110	3	1	2	2	1	1	1	1	1	1
111	3	3	1	1	1	2	1	2	1	1

112	3	1	1	1	1	1	1	1	2	2
113	3	2	1	1	1	1	1	2	1	1
114	3	5	1	1	1	2	1	1	1	1
115	3	1	1	1	1	1	1	1	1	1
116	3	3	1	1	1	2	1	1	1	1
117	3	2	1	1	1	1	2	1	1	1
118	3	3	1	1	1	2	1	1	1	1
119	2	1	1	1	1	1	1	2	2	1
120	3	1	1	1	1	1	1	1	1	1
121	3	3	1	1	1	2	1	2	1	1
122	3	3	1	1	1	1	1	1	1	1
123	3	2	1	1	1	1	1	1	1	1
124	3	1	1	1	1	2	1	1	1	1
125	3	3	1	1	1	1	1	1	1	1
126	3	3	1	1	1	1	1	2	1	1
127	3	1	1	1	1	2	1	1	1	1
128	3	1	1	1	1	1	1	2	1	1
129	3	3	1	1	1	2	1	2	1	1
130	3	1	1	1	1	2	1	1	1	1
131	3	3	1	1	2	1	1	1	2	1
132	3	2	2	2	1	2	1	1	1	1
133	3	3	1	1	1	2	1	1	1	1
134	3	3	1	2	1	1	2	1	1	1
135	3	3	1	2	1	1	1	1	2	1
136	3	2	1	1	1	2	1	1	1	1
137	3	1	1	1	1	1	1	2	1	3
138	3	3	1	1	1	1	1	1	1	1
139	3	3	1	1	1	2	1	1	1	1
140	3	2	1	1	1	1	1	1	1	1
141	2	1	1	1	1	1	1	1	1	1
142	3	3	1	1	1	2	1	1	1	1

143	3	1	1	1	1	2	1	1	1	1
144	3	3	1	1	1	1	1	2	2	1
145	3	2	1	1	1	2	1	1	1	1
146	3	1	1	1	1	2	1	2	1	1
147	3	3	1	1	1	1	1	1	1	1
148	3	2	1	1	1	2	1	1	1	1
149	3	1	1	1	1	1	2	1	1	1
150	3	3	1	1	1	1	1	1	1	1
151	3	1	1	1	1	2	1	1	1	1
152	3	3	1	1	1	2	1	1	1	1
153	3	3	1	1	2	1	1	1	1	1
154	3	2	1	1	1	2	1	2	1	1
155	3	1	1	1	1	1	1	1	2	1
156	3	3	1	1	1	2	1	2	1	1
157	3	2	1	1	1	2	1	1	1	1
158	3	1	1	1	1	2	1	1	1	1
159	3	1	1	1	1	1	1	2	1	1
160	3	3	1	1	1	1	1	1	2	1
161	3	1	1	1	1	1	1	2	1	4
162	3	1	1	1	1	1	1	1	1	1
163	3	3	1	1	1	1	1	2	1	1
164	3	1	1	1	1	1	1	1	1	1
165	3	3	1	1	1	2	1	1	1	1
166	3	1	1	1	1	1	1	1	1	1
167	3	3	1	1	1	2	1	1	1	1
168	3	3	1	1	1	2	1	1	1	1
169	3	2	1	1	1	1	1	1	2	3
170	3	1	1	1	1	2	1	1	1	1
171	3	3	1	1	1	2	2	2	1	1
172	3	2	1	2	1	1	1	1	1	1
173	3	1	1	1	1	1	1	1	1	1

174	3	3	1	2	1	2	1	1	1	1
175	2	1	1	1	1	2	1	1	1	1
176	3	1	1	1	1	1	1	2	1	3
177	3	1	1	1	1	1	1	2	1	1
178	3	1	1	1	1	1	1	2	1	1
179	3	3	1	1	2	1	1	2	1	1
180	3	3	1	1	1	2	1	1	2	1
181	3	2	1	1	1	1	1	1	1	1
182	3	3	1	1	1	1	1	1	1	1
183	3	3	1	1	1	2	1	1	1	1
184	3	3	1	1	1	2	1	1	1	1
185	3	2	1	1	1	1	2	1	1	1
186	3	3	1	1	1	1	1	1	2	1
187	3	1	1	1	1	2	1	1	1	4
188	3	1	1	1	1	1	1	1	1	1
189	3	3	1	1	1	1	1	2	1	1
190	3	1	1	1	1	2	1	1	1	1
191	2	3	1	1	1	1	1	1	1	1
192	3	1	1	1	1	1	1	1	2	1
193	3	1	1	1	1	1	1	1	1	1
194	3	1	1	1	1	1	1	1	1	3
195	3	3	1	1	1	1	1	1	1	1
196	3	2	1	1	1	2	1	1	1	1
197	3	3	1	1	1	1	1	1	1	1
198	3	3	1	1	1	1	1	1	1	1
199	3	1	1	1	1	2	1	1	1	1
200	3	1	1	1	1	1	1	2	1	1
201	3	3	1	1	1	1	1	2	2	1
202	3	1	1	1	1	1	1	1	1	1
203	3	3	1	1	2	2	1	1	1	1
204	3	1	1	1	1	2	1	1	2	1

205	3	1	1	1	1	1	1	1	1	1
206	3	3	1	1	1	1	1	2	1	1
207	3	2	1	1	1	1	1	2	1	1
208	3	3	1	1	1	1	2	1	1	1
209	3	3	1	1	1	1	1	1	1	1
210	3	1	1	1	1	1	1	1	1	3
211	3	1	1	1	1	1	1	1	1	1
212	3	3	1	1	1	1	1	1	1	1
213	3	3	1	1	1	1	1	1	1	1
214	2	2	1	1	1	1	1	1	1	1
215	3	3	1	1	1	2	1	1	1	1
216	3	1	1	1	1	1	1	2	2	1
217	3	1	1	1	1	1	1	1	1	1
218	3	1	1	2	1	1	1	2	2	1
219	3	3	1	1	1	2	1	1	1	1
220	4	3	1	1	1	2	1	1	1	1
221	3	2	1	1	1	1	1	1	1	1
222	3	1	1	2	1	2	1	1	1	1
223	3	3	1	1	1	1	1	1	1	1
224	3	3	1	1	1	2	1	1	1	1
225	3	1	1	1	1	1	1	2	2	1
226	3	3	1	1	1	1	1	1	1	1
227	3	3	1	1	1	1	1	1	1	1
228	3	1	1	1	1	1	1	1	1	1
229	3	1	1	1	1	1	1	2	1	1
230	3	3	1	1	1	1	1	1	1	1
231	3	1	1	1	1	1	1	1	1	3
232	3	3	1	1	1	1	2	2	1	1
233	2	3	1	1	1	2	1	1	1	1
234	3	1	1	1	1	1	1	1	1	1
235	3	1	1	1	1	1	1	1	1	1

236	3	3	1	1	1	1	1	2	1	1
237	3	3	1	1	1	1	1	1	1	1
238	3	2	1	1	1	2	1	2	1	1
239	3	3	1	1	2	1	1	1	1	1
240	3	1	1	1	1	1	1	1	1	1
241	3	3	1	1	1	2	1	1	1	1
242	3	3	1	1	1	1	1	1	2	1
243	3	2	1	1	1	2	1	2	1	1
244	3	1	1	1	1	2	1	1	2	1
245	3	1	1	1	1	1	1	1	1	1
246	3	3	1	1	1	1	1	2	1	1
247	3	3	1	1	1	1	1	1	1	1
248	3	2	1	1	1	1	1	1	1	1
249	2	3	2	1	1	1	1	1	1	1
250	3	1	1	2	1	1	1	2	1	1
251	3	3	1	1	1	1	1	1	1	3
252	3	1	1	1	1	1	1	1	1	1
253	3	1	1	1	1	2	1	1	1	1
254	3	1	1	1	1	1	1	1	2	1
255	3	1	1	1	1	2	1	2	1	1
256	3	1	1	1	1	1	1	1	1	1
257	3	3	1	2	2	1	1	1	1	1
258	4	3	1	1	1	1	1	2	1	1
259	3	2	1	1	1	1	1	1	2	1
260	3	1	1	1	1	1	1	1	1	1
261	3	1	1	1	1	1	1	1	1	1
262	3	3	1	1	1	1	1	1	1	1
263	3	1	1	1	1	2	1	2	1	1
264	3	1	1	1	1	2	1	2	1	1
265	3	3	1	1	1	1	2	1	1	1
266	3	3	1	1	1	1	1	1	1	3

267	3	2	1	1	1	1	1	1	2	1
268	3	3	1	1	1	2	1	2	1	1
269	3	3	1	2	1	1	1	1	1	1
270	3	1	1	1	1	1	1	1	1	1
271	3	2	2	1	1	1	1	1	1	1
272	4	3	1	1	1	1	1	1	1	1
273	3	3	1	1	1	1	1	2	1	1
274	3	3	1	1	1	1	1	1	1	1
275	3	2	1	1	1	1	1	1	1	1
276	3	1	1	1	1	1	1	1	1	1
277	3	3	1	1	1	1	1	2	1	1
278	2	3	1	1	1	2	1	1	2	1
279	3	3	1	1	1	1	1	1	1	1
280	3	2	1	1	1	1	1	1	1	1
281	3	3	1	1	1	1	1	1	1	1
282	3	3	1	1	2	1	1	1	1	1
283	3	3	1	1	1	1	1	2	1	1
284	3	2	1	1	1	2	1	1	1	1
285	3	3	1	1	1	2	2	1	1	1
286	3	1	1	1	1	1	1	2	1	1
287	3	1	1	1	1	1	1	1	1	1
288	3	1	1	1	1	1	1	1	1	1
289	3	3	1	2	1	2	1	2	1	1
290	3	3	1	1	1	1	1	1	2	1
291	3	1	1	1	1	2	1	1	1	1
292	3	3	1	1	1	1	1	1	1	1
293	3	3	1	1	1	1	1	1	1	1
294	3	2	1	1	1	1	1	1	1	1
295	3	1	1	1	1	1	1	1	1	1
296	3	1	1	1	1	1	1	1	1	1
297	3	3	1	1	1	2	1	2	1	1

298	3	1	1	1	1	1	1	1	1	1
299	3	1	1	1	1	1	1	1	1	1
300	3	1	1	1	1	2	1	2	2	1
301	2	3	1	1	1	1	1	1	1	1
302	3	3	1	1	1	1	1	1	1	1
303	3	1	1	1	1	1	2	1	2	1
304	3	3	1	1	1	1	1	1	1	1
305	3	1	1	1	1	1	1	2	1	1
306	3	1	1	1	1	1	1	2	1	1
307	3	1	1	1	1	1	1	1	1	1
308	3	3	1	1	1	1	1	2	1	1
309	3	3	1	1	1	2	1	1	1	1
310	3	1	1	2	1	1	1	2	1	1
311	3	1	1	1	1	1	1	1	1	1
312	3	1	1	1	1	2	1	1	1	1
313	3	1	1	1	2	2	1	1	1	1
314	3	3	1	1	1	1	1	1	1	1
315	3	3	1	1	1	1	1	1	1	1
316	3	1	1	1	1	1	1	1	2	1
317	3	1	1	1	1	2	2	1	1	3
318	3	1	1	1	1	1	1	1	1	1
319	3	3	1	2	1	1	1	1	1	1
320	3	2	1	1	1	1	1	2	1	1
321	3	1	1	1	1	1	1	2	1	1
322	3	3	1	1	1	1	1	2	2	1
323	3	3	1	1	1	2	1	2	1	1
324	2	3	1	1	1	1	1	1	1	1
325	3	2	1	1	1	2	1	1	1	1
326	3	1	1	1	1	1	1	1	1	1
327	3	1	1	1	1	1	1	1	1	1
328	3	1	1	1	1	1	1	1	1	1

329	3	3	1	1	2	1	2	1	1	1
330	3	3	1	2	1	1	1	1	1	1
331	3	1	1	1	1	1	1	1	1	1
332	3	3	1	1	1	1	1	1	2	1
333	3	1	1	1	1	2	1	1	1	1
334	3	1	1	1	1	2	1	2	2	1
335	3	1	1	1	1	2	1	1	1	1
336	3	3	1	1	1	2	1	1	1	1
337	3	1	1	1	1	1	1	1	1	4
338	3	3	1	1	1	1	1	1	1	1
339	3	2	1	2	1	1	1	1	1	1
340	3	1	1	1	1	1	1	1	1	1
341	3	1	1	1	1	1	1	2	1	1
342	3	3	1	1	1	1	1	1	1	1
343	3	3	1	1	1	1	2	1	1	1
344	3	3	1	1	1	1	1	1	1	1
345	3	1	1	1	1	1	1	1	1	1
346	3	2	1	1	1	1	1	1	2	1
347	2	3	1	1	2	2	1	1	1	1
348	3	1	1	1	1	1	1	1	1	1
349	3	3	1	1	1	1	1	1	1	1
350	3	3	1	1	1	1	1	2	1	1
351	3	3	1	1	1	1	1	2	1	1
352	3	3	1	1	1	1	1	1	1	1
353	3	3	1	1	1	1	1	1	1	2
354	3	3	1	1	1	1	1	1	1	1
355	3	3	1	1	1	1	1	2	1	1
356	3	3	1	1	1	1	1	1	1	1
357	3	3	1	1	1	1	2	1	1	1
358	3	3	1	1	1	2	1	1	1	1
359	3	3	1	1	2	1	1	2	1	1

360	2	3	1	1	1	2	1	1	1	1
361	3	3	1	1	1	2	1	1	1	1
362	3	1	1	1	1	1	1	1	2	1
363	3	1	1	1	2	1	1	1	1	3
364	3	1	1	2	1	1	2	2	1	1
365	3	1	1	2	1	2	2	1	1	1

Medication and Health System related Factors

P No.	DOI	DOP	Prescribed	consumed tab	No of empty strip	No. of unused strip	Strips thrown	IFA tablets Obtain	Cost affordable	Experience S/E	Taste Acceptable	Challenging to take remember	Encourage IFAS By	More encourage	Explain S/E	Continue taking IFA	Motivate to take IFAS	Recommended IFAS
P1	19.08.2024	09.07.2024	60	40	4	2	0	1	3	2	2	2	2	1	2	3	3	3
P2	19.08.2024	09.07.2024	60	40	4	2	0	**1**	**3**	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**
P3	19.08.2024	09.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P4	19.08.2024	09.07.2024	60	37	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P5	19.08.2024	09.07.2024	60	40	4	2	0	2	1	2	2	2	2	2	2	3	1	2
P6	19.08.2024	09.07.2024	60	28	3	2	1	1	3	2	2	2	1	1	1	1	3	1
P7	19.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	1	1	3	3	1	1
P8	19.08.2024	16.07.2024	60	33	4	2	0	1	3	1	1	1	1	1	1	1	3	3
P9	19.08.2024	09.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P10	19.08.2024	09.07.2024	60	40	4	2	0	1	3	2	2	2	2	1	2	3	1	1
P11	19.08.2024	09.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P12	19.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P13	20.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	1	1	1	1	1	1

P14	20.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	2	1	2	3	3	3
P15	20.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P16	20.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P17	20.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P18	20.08.2024	16.07.2024	60	33	4	2	0	1	3	1	1	1	2	1	2	3	3	1
P19	20.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P20	20.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P21	20.08.2024	16.07.2024	60	33	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P22	21,08.2024	16.07.2024	60	36	4	2	0	2	1	2	2	2	2	2	2	3	1	2
P23	21,08.2024	09.07.2024	60	42	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P24	21,08.2024	09.07.2024	60	42	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P25	21,08.2024	09.07.2024	60	42	5	1	0	1	3	2	2	2	2	1	2	3	3	1
P26	21,08.2024	09.07.2024	60	42	5	1	0	1	3	2	2	2	1	1	1	1	1	1
P27	21,08.2024	23.07.2024	30	29	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P28	21,08.2024	23.07.2024	30	29	3	0	0	1	3	2	2	2	2	1	2	3	3	1
P29	21,08.2024	23.07.2024	30	29	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P30	21,08.2024	23.07.2024	30	29	3	0	0	1	3	2	2	2	2	1	2	3	3	1
P31	21,08.2024	23.07.2024	30	29	3	0	0	1	3	1	1	1	1	1	1	1	3	1
P32	21,08.2024	23.07.2024	30	29	3	0	0	1	3	2	2	2	1	1	1	1	1	3
P33	21,08.2024	23.07.2024	30	29	3	0	0	1	3	2	2	2	2	1	2	3	3	1
P34	22.08.2024	23.07.2024	30	30	3	0	0	2	1	2	2	2	2	2	2	3	1	2
P35	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P36	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	2	1	2	3	3	1

P37	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P38	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	2	1	2	3	3	1
P39	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P40	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P41	22.08.2024	21.07.2024	30	30	3	0	0	1	3	1	1	1	2	1	2	3	1	1
P42	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P43	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P44	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	3	2	3	3
P45	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	1
P46	22.08.2024	21.07.2024	30	30	3	0	0	1	3	2	2	2	2	1	2	3	3	1
P47	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P48	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	1	3
P49	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	2	1	2	3	3	1
P50	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P51	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	3	3	3	1
P52	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	1	3
P53	27.08.2024	23.07.2024	60	34	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P54	27.08.2027	23.07.2024	60	34	4	2	0	1	3	1	1	1	1	1	1	1	3	1
P55	27.08.2024	23.07.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P56	27.08.2024	23.07.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P57	27.08.2024	23.07.2024	60	34	4	2	0	1	3	2	2	2	2	1	2	3	3	3
P58	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P59	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	3	3	1	1

P60	27.08.2024	16.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P61	27.08.2024	16.07.2024	60	41	5	1	0	2	1	1	1	1	2	2	2	3	1	3
P62	27.08.2024	23.07.2024	60	34	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P63	27.08.2024	23.07.2024	60	34	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P64	27.08.2024	23.07.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P65	28.08.2024	23.07.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P66	28.08.2024	23.07.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P67	28.08.2024	23.07.2024	60	35	4	2	0	1	3	1	1	1	1	1	1	1	3	1
P68	28.08.2024	23.07.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P69	28.08.2024	23.07.2024	60	35	4	2	0	1	3	2	2	2	2	1	2	3	1	1
P70	28.08.2024	23.07.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P71	28.08.2024	23.07.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P72	28.08.2024	23.07.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P73	28.08.2024	23.07.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P74	28.08.2024	18.07.2024	60	38	4	2	0	1	3	1	1	1	2	1	2	3	3	1
P75	28.08.2024	18.07.2024	60	38	4	2	3	1	3	2	2	2	1	1	1	1	3	3
P76	28.08.2024	18.07.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P77	28.08.2024	18.07.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P78	28.08.2024	18.07.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P79	28.08.2024	18.07.2024	60	38	4	2	0	1	3	2	2	2	1	1	3	3	3	1
P80	28.08.2024	18.07.2024	60	38	4	2	0	1	3	2	2	2	2	1	2	3	3	2
P81	28.08.2024	18.07.2024	60	38	4	2	0	2	1	1	1	1	2	2	2	3	1	3
P82	28.08.2024	18.07.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1

P83	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	1
P84	29.08.2024	30.07.2024	30	28	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P85	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P86	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	2
P87	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P88	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	3	3	3	1
P89	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	2	1	2	3	3	3
P90	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P91	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	1
P92	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P93	29.08.2024	30.07.2024	30	30	3	0	0	1	3	2	2	2	2	1	2	3	3	1
P94	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P95	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P96	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P97	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P98	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	2	3	3
P99	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P100	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	2	1	2	3	1	1
P101	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P102	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P103	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P104	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P105	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	2	1	3	3	3	1

P106	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P107	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P108	29.08.2024	23.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P109	30.08.2024	28.07.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P110	30.08.2024	28.07.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P111	30.08.2024	28.07.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P112	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	1	3
P113	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P114	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P115	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P116	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P117	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P118	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P119	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P120	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P121	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P122	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P123	30.08.2024	30.07.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P124	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P125	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	2	1	2	3	3	3
P126	31.08.2024	25.07.2024	60	36	4	2	0	2	1	2	2	2	2	2	2	3	1	2
P127	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P128	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1

P129	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	2	1	2	3	1	1
P130	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P131	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P132	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P133	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P134	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P135	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P136	31.08.2024	25.07.2024	60	36	4	2	0	1	3	1	1	1	1	1	1	1	1	1
P137	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P138	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P139	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P140	31.08.2024	25.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P141	31.08.2024	30.07.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P142	31.08.2024	30.07.2024	60	32	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P143	31.08.2024	30.07.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P144	31.08.2024	30.07.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P145	31.08.2024	30.07.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P146	31.08.2024	30.07.2024	60	32	4	2	0	1	3	2	2	2	2	1	2	3	1	3
P147	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P148	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P149	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P150	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	2	1	2	3	1	1
P151	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1

P152	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P153	02.09.2024	01.08.2024	60	34	4	2	2	1	3	2	2	2	1	1	1	1	3	3
P154	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P155	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P156	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P157	02.09.2024	01.08.2024	60	36	4	2	4	1	3	1	1	1	1	1	1	1	3	3
P158	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P159	02.09.2024	01.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P160	02.09.2024	30.07.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P161	02.09.2024	30.07.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P162	02.09.2024	30.07.2024	60	34	4	2	0	1	3	2	2	2	2	1	2	3	3	1
P163	02.09.2024	30.07.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P164	02.09.2024	30.07.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P165	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P166	03.09.2024	23.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P167	03.09.2024	23.07.2024	60	40	4	2	0	2	1	2	2	2	2	2	2	3	1	2
P168	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P169	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	1
P170	03.09.2024	23.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P171	03.09.2024	23.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P172	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	2	1	2	3	3	1
P173	03.09.2024	23.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P174	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	1

P175	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P176	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P177	03.09.2024	23.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	2	3	1
P178	03.09.2024	23.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P179	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	3
P180	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P181	03.09.2024	03.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P182	03.09.2024	23.07.2024	60	40	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P183	04.09.2024	06.08.2024	30	29	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P184	04.09.2024	30.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P185	04.09.2024	30.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P186	04.09.2024	06.08.2024	30	29	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P187	04.09.2024	30.07.2024	60	36	4	2	0	1	3	2	2	2	4	1	4	3	3	3
P188	04.09.2024	30.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P189	04.09.2024	06.08.2024	30	29	3	0	0	1	3	2	2	2	1	1	1	1	1	1
P190	04.09.2024	06.08.2024	30	29	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P191	04.09.2024	30.07.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P192	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P193	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P194	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P195	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	1
P196	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P197	05.09.2024	30.07.2024	60	37	4	2	0	1	3	2	2	2	1	1	1	1	3	1

P198	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P199	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P200	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	3
P201	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	4	1	4	3	3	1
P202	05.09.2024	30.07.2024	60	37	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P203	05.09.2024	30.07.2024	60	37	4	2	0	2	1	2	2	2	2	2	2	3	1	2
P204	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P205	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P206	05.09.2024	06.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	1	1
P207	05.09.2024	30.07.2024	60	37	4	2	0	1	3	1	1	1	1	1	1	1	3	1
P208	06.09.2024	25.07.2024	60	42	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P209	06.09.2024	06.08.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P210	06.09.2024	25.07.2024	60	42	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P211	06.09.2024	06.08.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P212	06.09.2024	25.07.2024	60	42	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P213	06.09.2024	06.08.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	1	3
P214	06.09.2024	25.07.2024	60	42	5	1	0	1	3	2	2	2	4	1	4	3	3	1
P215	06.09.2024	06.08.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P216	06.09.2024	25.07.2024	60	42	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P217	07.09.2024	30.07.2024	60	39	4	2	0	1	3	1	1	1	1	1	1	1	1	1
P218	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P219	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P220	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	1	1

P2 21	07.09.2024	30.07.2024	60	39	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P2 22	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 23	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	5	1
P2 24	07.09.2024	30.07.2024	60	39	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 25	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 26	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P2 27	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P2 28	07.09.2024	06.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	2	3	1
P2 29	07.09.2024	30.07.2024	60	39	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 30	07.09.2024	30.07.2024	60	39	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P2 31	09.09.2024	01.08.2024	60	39	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 32	09.09.2024	06.08.2024	60	34	4	2	0	1	3	1	1	1	1	1	1	1	3	3
P2 33	09.09.2024	06.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 34	09.09.2024	06.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 35	09.09.2024	06.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P2 36	09.09.2024	01.08.2024	60	39	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 37	09.09.2024	06.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 38	09.09.2024	06.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	5	1
P2 39	09.09.2024	01.08.2024	60	39	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P2 40	09.09.2024	06.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 41	09.09.2024	06.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	1	1
P2 42	09.09.2024	01.08.2024	60	39	4	2	0	1	3	2	2	2	4	1	4	3	3	1
P2 43	09.09.2024	06.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	5	3

P2 44	09.09.2024	01.08.2024	60	39	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 45	10.09.2024	30.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	1	1
P2 46	10.09.2024	06.08.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P2 47	10.09.2024	06.08.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 48	10.09.2024	06.08.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 49	10.09.2024	06.08.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 50	10.09.2024	06.08.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 51	10.09.2024	30.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P2 52	10.09.2024	30.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	1	1
P2 53	10.09.2024	06.08.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 54	10.09.2024	30.07.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	2	1
P2 55	10.09.2024	30.07.2024	60	35	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 56	11.09.2024	06.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	2	1
P2 57	11.09.2024	06.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P2 58	11.09.2024	06.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P2 59	11.09.2024	06.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P2 60	11.09.2024	06.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	2	1
P2 61	11.09.2024	06.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P2 62	11.09.2024	06.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P2 63	11.09.2024	06.08.2024	60	41	5	1	0	1	3	2	2	2	4	1	4	3	3	1
P2 64	11.09.2024	06.08.2024	60	41	5	1	0	1	3	1	1	1	1	1	1	1	3	1
P2 65	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1

P2 66	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P2 67	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	2	1
P2 68	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P2 69	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P2 70	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	4	1
P2 71	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P2 72	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P2 73	12.09.2024	13.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	3
P2 74	13.09.2024	06.08.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	4	1
P2 75	13.09.2024	13.08.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 76	13.09.2024	13.08.2024	60	33	4	2	2	1	3	2	2	2	1	1	1	1	3	1
P2 77	13.09.2024	06.08.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 78	13.09.2024	13.08.2024	60	31	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P2 79	13.09.2024	06.08.2024	60	36	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P2 80	13.09.2024	13.08.2024	60	31	4	2	0	1	3	2	2	2	1	1	1	1	4	1
P2 81	14.09.2024	13.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 82	14.09.2024	13.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 83	14.09.2025	13.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 84	14.09.2025	13.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P2 85	14.09.2025	13.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	4	1
P2 86	14.09.2025	13.08.2024	60	32	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P2 87	14.09.2025	13.08.2024	60	32	4	2	0	2	1	1	1	1	2	2	2	3	1	2
P2 88	18.09.2024	08.08.2024	60	41	4	2	0	1	3	2	2	2	1	1	1	1	3	1

P289	18.09.2024	08.08.2024	60	41	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P290	18.09.2024	08.08.2024	60	41	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P291	18.09.2024	08.08.2024	60	41	4	2	0	1	3	2	2	2	1	1	1	1	4	1
P292	18.09.2024	08.08.2024	60	41	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P293	18.09.2024	08.08.2024	60	41	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P294	18.09.2024	08.08.2024	60	41	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P295	19.09.2024	20.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P296	19.09.2024	20.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P297	19.09.2024	20.08.2024	30	30	3	0	0	1	3	2	2	2	4	1	4	3	4	1
P298	19.09.2024	20.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P299	19.09.2024	20.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P300	19.09.2024	20.08.2024	30	30	3	0	0	1	3	1	1	1	1	1	1	1	3	3
P301	19.09.2024	20.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	3	1
P302	19.09.2024	20.08.2024	30	30	3	0	0	1	3	2	2	2	1	1	1	1	4	1
P303	20.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P304	20.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P305	20.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P306	20.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	4	3
P307	20.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P308	21.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P309	21.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P310	21.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P311	21.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	3

P3 12	21.09.2024	13.08.2024	60	38	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P3 13	23.09.2024	20.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	4	1
P3 14	23.09.2024	20.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P3 15	23.09.2024	20.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	3
P3 16	23.09.2024	20.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P3 17	23.09.2024	20.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P3 18	23.09.2024	20.08.2024	60	34	4	2	0	1	3	2	2	2	1	1	1	1	3	1
P3 19	24.09.2024	08.08.2024	60	47	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 20	24.09.2024	08.08.2024	60	47	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P3 21	24.09.2024	08.08.2024	60	47	5	1	0	1	3	2	2	2	4	1	4	3	3	1
P3 22	24.09.2024	08.08.2024	60	47	5	1	0	1	3	2	2	2	1	1	1	1	4	1
P3 23	24.09.2024	08.08.2024	60	47	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 24	25.09.2024	08.08.2024	60	47	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 25	25.09.2024	08.08.2024	60	47	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P3 26	25.09.2025	08.08.2024	60	47	5	1	0	1	3	2	2	2	1	1	1	1	4	1
P3 27	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 28	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 29	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 30	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 31	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 32	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	3
P3 33	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	4	1
P3 34	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1

P3 35	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 36	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 37	26.09.2024	30.07.2024	60	57	6	0	0	`1	`3	`2	`2	`2	`1	`1	`1	`1	`3	3
P3 38	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 39	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	4	1
P3 40	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 41	26.09.2024	30.07.2024	60	57	6	0	0	1	3	2	2	2	1	1	1	1	3	1
P3 42	27.09.2024	13.08.2024	60	45	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 43	27.09.2024	13.08.2024	60	45	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P3 44	27.09.2024	13.08.2024	60	45	5	1	0	1	3	2	2	2	1	1	1	1	4	1
P3 45	27.09.2024	13.08.2024	60	45	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 46	27.09.2024	13.08.2024	60	45	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 47	27.09.2024	13.08.2024	60	45	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P3 48	27.09.2024	13.08.2024	60	45	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 49	27.09.2024	13.08.2024	60	45	5	1	0	1	3	2	2	2	1	1	1	1	4	1
P3 50	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 51	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 52	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P3 53	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	1	1	1	1	4	1
P3 54	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 55	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P3 56	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	4	1	4	3	3	1
P3 57	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	1	1	1	1	3	3

P358	28.09.2024	13.08.2024	60	46	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P359	30.09.2024	20.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	4	1
P360	30.09.2024	20.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P361	30.09.2024	20.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P362	30.09.2024	20.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	1
P363	30.09.2024	20.08.2024	60	41	5	1	0	1	3	1	1	1	1	1	1	1	3	1
P364	30.09.2024	20.08.2024	60	41	5	1	0	1	3	2	2	2	1	1	1	1	3	3
P365	30.09.2024	20.08.2024	60	41	5	1	0	1	3	2	2	2	4	1	4	3	4	1

Moriski Medication Adherence Scale:

P.NO	A1	A2	A3	A4	A5	A6	A7	A8
1	1	1	0	1	0	1	1	1
2	1	1	0	1	0	1	1	1
3	1	1	1	1	0	0	1	1
4	1	1	1	1	0	1	1	1
5	1	1	1	1	1	1	1	1
6	1	1	0	1	1	1	1	1
7	0	0	0	1	0	0	1	1
8	1	1	0	0	0	1	1	1
9	1	1	0	1	0	0	1	1
10	1	1	0	1	0	0	1	1
11	1	1	1	0	0	1	1	1
12	1	1	1	1	0	0	1	1
13	1	1	1	1	0	0	1	1
14	1	1	1	1	0	0	1	1

15	1	0	0	1	0	1	1	1
16	1	0	1	0	1	0	0	0
17	1	0	0	1	0	0	1	1
18	1	1	1	1	1	1	1	1
19	1	1	0	0	0	0	1	1
20	1	1	1	1	0	1	1	1
21	1	1	1	1	0	1	1	1
22	1	1	0	1	0	1	1	1
23	1	1	0	1	0	0	1	1
24	1	0	1	1	0	0	1	1
25	1	1	1	1	0	1	1	1
26	1	1	0	0	1	0	1	1
27	1	1	0	1	0	0	1	1
28	1	0	0	1	0	0	1	1
29	1	1	0	0	0	1	1	1
30	1	1	1	1	0	0	1	1
31	1	1	1	1	0	0	1	1
32	1	1	1	1	0	1	1	1
33	1	1	1	0	0	0	1	1
34	0	1	0	0	0	1	0	0
35	1	1	1	1	0	1	1	1
36	1	1	1	1	1	1	1	1
37	1	1	1	1	1	1	1	1
38	1	1	1	1	0	0	1	1
39	1	0	1	1	0	0	0	0
40	1	0	0	1	0	0	1	1
41	1	1	1	1	0	1	1	1
42	1	1	1	1	0	0	1	1
43	1	1	1	1	0	0	1	1

44	1	0	0	1	1	0	0	0
45	1	0	1	1	0	1	1	1
46	1	1	1	1	0	1	1	1
47	1	1	1	1	0	0	1	1
48	1	0	1	1	0	1	1	1
49	1	1	1	0	0	0	1	1
50	1	1	0	1	0	0	1	1
51	1	0	1	1	0	0	0	0
52	1	0	0	0	0	1	1	0
53	1	0	0	0	1	1	1	1
54	1	1	1	0	0	1	0	1
55	1	1	1	1	0	1	1	1
56	0	1	1	0	1	1	1	1
57	0	1	0	1	1	1	0	0
58	1	0	1	0	0	0	1	1
59	1	1	1	1	0	1	1	1
60	1	1	1	1	1	1	1	1
61	0	0	1	1	0	0	1	1
62	1	0	1	1	0	1	1	1
63	1	0	0	0	1	0	0	0
64	1	0	0	1	1	1	1	0
65	1	1	0	1	0	0	0	0
66	1	0	0	0	0	0	1	1
67	1	1	0	1	0	0	1	1
68	1	1	1	0	0	0	1	1
69	1	0	1	1	0	0	0	1
70	1	1	1	1	1	1	1	1
71	0	1	1	1	0	0	1	0
72	0	0	0	1	0	0	1	0

73	1	1	1	1	0	1	1	1
74	0	1	1	1	0	1	0	1
75	1	0	0	1	0	0	1	1
76	0	0	1	0	1	0	1	1
77	1	1	1	1	0	0	1	1
78	1	1	1	1	0	0	1	1
79	1	0	1	1	0	0	0	0
80	1	0	0	1	0	0	1	1
81	1	1	1	1	0	1	1	1
82	1	1	1	1	0	0	1	1
83	1	1	1	1	0	0	1	1
84	1	0	0	1	1	0	0	0
85	1	1	1	1	1	1	1	1
86	1	1	0	0	0	0	1	1
87	1	1	1	1	0	1	1	1
88	1	1	1	1	0	1	1	1
89	1	1	0	1	0	1	1	1
90	1	1	0	1	0	0	1	1
91	1	0	1	1	0	0	1	1
92	1	1	1	1	0	0	1	1
93	1	1	1	1	0	0	1	1
94	1	0	1	1	0	0	0	0
95	1	0	0	1	0	0	1	1
96	1	1	1	1	0	1	1	1
97	1	1	1	1	0	0	1	1
98	1	1	1	1	0	0	1	1
99	1	0	0	1	1	0	0	0
100	1	1	1	1	1	1	1	1
101	1	1	0	0	0	0	1	1

102	1	1	1	1	0	1	1	1
103	1	1	1	1	0	1	1	1
104	1	1	0	1	0	1	1	1
105	1	1	0	1	0	0	1	1
106	1	0	1	1	0	0	1	1
107	1	1	1	1	0	0	1	1
108	1	1	1	1	0	0	1	1
109	1	1	0	1	0	0	1	1
110	1	1	1	1	0	1	1	1
111	0	1	1	1	0	1	0	1
112	1	0	0	1	0	0	1	1
113	0	0	1	0	1	0	1	1
114	1	1	1	1	1	1	1	1
115	1	1	0	0	0	0	1	1
116	1	1	1	1	0	1	1	1
117	1	1	1	1	0	1	1	1
118	1	1	0	1	0	1	1	1
119	1	1	0	1	0	0	1	1
120	1	0	1	1	0	0	1	1
121	1	1	1	1	0	1	1	1
122	0	1	1	1	0	1	0	1
123	1	0	0	1	0	0	1	1
124	0	0	1	0	1	0	1	1
125	1	0	0	1	0	0	1	1
126	1	1	1	1	0	1	1	1
127	1	1	1	1	0	0	1	1
128	1	1	1	1	0	0	1	1
129	1	0	0	1	1	0	0	0
130	1	1	1	1	1	1	1	1

131	1	1	0	0	0	0	1	1
132	1	1	1	1	0	1	1	1
133	1	1	1	1	0	1	1	1
134	1	1	0	1	0	1	1	1
135	1	1	0	1	0	0	1	1
136	1	0	1	1	0	0	1	1
137	1	1	1	1	0	0	1	1
138	1	1	1	1	0	0	1	1
139	1	1	1	1	1	1	1	1
140	1	1	0	0	0	0	1	1
141	1	1	1	1	0	1	1	1
142	1	1	1	1	0	1	1	1
143	1	1	0	1	0	1	1	1
144	1	1	0	1	0	0	1	1
145	1	0	1	1	0	0	1	1
146	1	1	0	1	0	0	1	1
147	1	1	0	1	0	0	1	1
148	1	1	1	1	0	0	1	1
149	1	1	1	1	0	0	1	1
150	1	0	0	1	0	0	1	1
151	1	1	1	1	0	1	1	1
152	1	1	1	1	0	0	1	1
153	1	1	1	1	0	0	1	1
154	1	0	0	1	1	0	0	0
155	1	1	1	1	0	1	1	1
156	0	1	1	1	0	1	0	1
157	1	0	0	1	0	0	1	1
158	0	0	1	0	1	0	1	1
159	1	1	0	1	1	0	0	0

160	1	0	1	0	0	1	1	0
161	1	0	0	0	0	1	1	1
162	1	0	0	0	0	1	1	1
163	1	0	1	0	0	0	0	0
164	1	1	1	0	1	1	1	1
165	1	0	0	0	0	0	1	0
166	1	0	0	0	0	1	1	0
167	1	1	0	1	1	1	1	1
168	1	1	1	1	0	0	1	1
169	1	1	1	1	0	0	1	1
170	1	0	0	1	0	0	1	1
171	1	1	1	1	0	1	1	1
172	1	1	1	1	0	0	1	1
173	1	1	1	1	0	0	1	1
174	1	0	0	1	1	0	0	0
175	1	1	1	1	0	1	1	1
176	0	1	1	1	0	1	0	1
177	1	0	0	1	0	0	1	1
178	0	0	1	0	1	0	1	1
179	1	0	1	1	0	0	0	0
180	1	0	0	1	0	0	1	1
181	1	1	1	1	0	1	1	1
182	1	1	1	1	0	0	1	1
183	1	1	1	1	0	0	1	1
184	1	0	0	1	1	0	0	0
185	1	1	1	1	1	1	1	1
186	1	1	0	0	0	0	1	1
187	1	1	1	1	0	1	1	1
188	1	1	1	1	0	1	1	1

189	1	1	0	1	0	1	1	1
190	1	1	0	1	0	0	1	1
191	1	0	1	1	0	0	1	1
192	1	1	1	1	0	0	1	1
193	1	1	1	1	0	0	1	1
194	1	0	1	1	0	0	0	0
195	1	0	0	1	0	0	1	1
196	1	1	1	1	0	1	1	1
197	1	1	1	1	0	0	1	1
198	1	1	1	1	0	0	1	1
199	1	0	0	1	1	0	0	0
200	1	1	1	1	1	1	1	1
201	1	1	0	0	0	0	1	1
202	1	1	1	1	0	1	1	1
203	1	1	1	1	0	1	1	1
204	1	1	0	1	0	1	1	1
205	1	1	0	1	0	0	1	1
206	1	0	1	1	0	0	1	1
207	1	1	1	0	0	0	1	1
208	1	1	1	0	0	0	1	1
209	1	1	1	0	0	0	1	1
210	1	1	1	0	0	0	1	1
211	1	1	1	1	0	0	1	1
212	1	1	1	1	0	0	1	1
213	1	1	0	1	0	0	1	1
214	1	0	1	1	0	0	0	0
215	1	0	0	1	0	0	1	1
216	1	1	1	1	0	1	1	1
217	1	1	1	1	0	0	1	1

218	1	1	1	1	0	0	1	1
219	1	0	0	1	1	0	0	0
220	1	1	1	1	0	0	1	1
221	1	1	1	1	0	0	1	1
222	1	1	1	0	0	0	1	1
223	1	1	0	1	0	0	1	1
224	1	1	1	0	0	0	1	1
225	1	1	1	1	0	0	1	1
226	1	1	1	1	0	0	1	1
227	1	1	1	0	0	0	1	1
228	1	1	0	1	0	0	1	1
229	1	0	1	1	0	0	0	0
230	1	0	0	1	0	0	1	1
231	1	1	1	1	0	1	1	1
232	1	1	1	1	0	0	1	1
233	1	1	1	1	0	0	1	1
234	1	0	0	1	1	0	0	0
235	1	1	1	1	0	1	1	1
236	0	1	1	1	0	1	0	1
237	1	0	0	1	0	0	1	1
238	0	0	1	0	1	0	1	1
239	1	1	1	1	1	1	1	1
240	1	1	0	0	0	0	1	1
241	1	1	1	1	0	1	1	1
242	1	1	1	1	0	1	1	1
243	1	1	0	1	0	1	1	1
244	1	1	0	1	0	0	1	1
245	1	0	1	1	0	0	1	1
246	1	1	1	1	0	0	1	1

247	1	1	1	1	0	0	1	1
248	1	1	0	1	0	0	1	1
249	1	0	1	1	0	0	0	0
250	1	0	0	1	0	0	1	1
251	1	1	1	1	0	1	1	1
252	1	1	1	1	0	0	1	1
253	1	1	1	1	0	0	1	1
254	1	0	0	1	1	0	0	0
255	1	1	1	1	0	1	1	1
256	0	1	1	1	0	1	0	1
257	1	0	0	1	0	0	1	1
258	0	0	1	0	1	0	1	1
259	1	1	1	1	1	1	1	1
260	1	1	0	0	0	0	1	1
261	1	1	1	1	0	1	1	1
262	1	1	1	1	0	1	1	1
263	1	1	0	1	0	1	1	1
264	1	1	0	1	0	0	1	1
265	1	0	1	1	0	0	1	1
266	1	1	1	1	0	1	1	1
267	0	1	1	1	0	1	0	1
268	1	0	0	1	0	0	1	1
269	0	0	1	0	1	0	1	1
270	1	0	0	1	0	0	1	1
271	1	1	1	1	0	1	1	1
272	1	1	1	1	0	0	1	1
273	1	1	1	1	0	0	1	1
274	1	0	0	1	1	0	0	0
275	1	1	1	1	1	1	1	1

276	1	1	0	0	0	0	1	1
277	1	1	1	1	0	1	1	1
278	1	1	1	1	0	1	1	1
279	1	1	0	1	0	1	1	1
280	1	1	0	1	0	0	1	1
281	1	0	1	1	0	0	1	1
282	1	1	1	1	1	1	1	1
283	1	1	1	1	1	1	1	1
284	1	1	0	1	1	1	1	1
285	1	1	1	1	0	1	1	1
286	0	1	1	1	0	1	0	1
287	1	0	0	1	0	0	1	1
288	0	0	1	0	1	0	1	1
289	1	1	1	1	0	0	1	1
290	1	1	1	1	0	0	1	1
291	1	1	0	1	1	1	1	1
292	1	1	0	1	0	0	1	1
293	1	1	0	1	1	1	1	1
294	1	1	0	1	0	0	1	1
295	1	1	0	1	1	1	1	1
296	1	1	1	1	0	1	1	1
297	0	1	1	1	0	1	0	1
298	1	0	0	1	0	0	1	1
299	0	0	1	0	1	0	1	1
300	1	1	0	1	1	1	1	1
301	1	1	1	1	0	0	1	1
302	1	1	1	1	0	0	1	1
303	1	1	0	1	1	1	1	1
304	1	1	0	1	0	0	1	1

305	1	1	1	1	1	1	1	1
306	1	1	0	1	0	0	1	1
307	1	1	0	1	1	1	1	1
308	1	1	1	1	0	0	1	1
309	1	1	1	1	0	0	1	1
310	1	0	0	1	0	0	1	1
311	1	1	1	1	0	1	1	1
312	1	1	1	1	0	0	1	1
313	1	1	1	1	0	0	1	1
314	1	0	0	1	1	0	0	0
315	1	1	0	1	0	0	1	1
316	1	1	1	1	0	1	1	1
317	0	1	1	1	0	1	0	1
318	1	0	0	1	0	0	1	1
319	0	0	1	0	1	0	1	1
320	1	1	0	1	1	1	1	1
321	1	1	0	1	1	1	1	1
322	1	1	0	1	1	1	1	1
323	1	1	1	1	0	1	1	1
324	0	1	1	1	0	1	0	1
325	1	0	0	1	0	0	1	1
326	0	0	1	0	1	0	1	1
327	1	1	0	1	1	0	0	1
328	1	1	1	1	0	0	1	1
329	1	1	1	1	0	0	1	1
330	1	1	0	1	1	1	1	1
331	1	1	0	1	0	0	1	1
332	1	1	0	1	1	1	1	1
333	1	1	0	1	1	1	1	1

334	1	0	1	1	0	0	0	0
335	1	0	0	1	0	0	1	1
336	1	1	1	1	0	1	1	1
337	1	1	1	1	0	0	1	1
338	1	1	1	1	0	0	1	1
339	1	0	0	1	1	0	0	0
340	1	1	0	1	1	1	0	0
341	1	1	1	1	0	1	1	1
342	0	1	1	1	0	1	0	1
343	1	0	0	1	0	0	1	1
344	0	0	1	0	1	0	1	1
345	1	1	0	1	1	1	0	1
346	1	1	1	1	0	0	1	1
347	1	1	1	1	0	0	1	1
348	1	1	0	1	0	0	1	1
349	1	1	1	1	1	1	1	1
350	1	1	0	1	0	0	1	1
351	1	1	0	1	0	1	1	1
352	1	0	1	1	0	0	0	0
353	1	0	0	1	0	0	1	1
354	1	1	1	1	0	1	1	1
355	1	1	1	1	0	0	1	1
356	1	1	1	1	0	0	1	1
357	1	0	0	1	1	0	0	0
358	1	1	0	1	0	0	1	1
359	1	1	0	1	1	0	1	1
360	1	1	1	1	0	0	1	1
361	1	1	1	1	0	0	1	1
362	1	1	0	1	1	1	1	1

363	1	1	0	1	0	0	1	1
364	1	1	1	1	0	0	1	1
365	1	1	1	1	0	0	1	1

Knowledge Scoring Tool

Total participants	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
P1	1	1	1	0	0	1	1	1	1	0
P2	1	0	1	0	0	1	1	1	1	0
P3	1	1	1	0	0	1	1	1	1	1
P4	1	0	1	0	0	1	0	1	1	0
P5	1	1	1	0	0	0	1	1	1	1
P6	1	0	1	1	0	1	1	1	1	0
P7	0	1	1	0	0	0	1	1	1	0
P8	1	0	1	0	1	1	1	1	1	0
P9	1	0	1	0	0	1	0	1	1	0
P10	0	1	1	1	1	0	0	1	0	1
P11	1	0	1	1	1	0	1	1	1	1
P12	1	0	1	1	1	0	1	1	1	0
P13	1	0	1	1	1	0	1	1	0	0
P14	1	0	1	0	0	1	1	1	1	1
P15	1	0	1	1	0	1	1	1	1	1
P16	1	1	1	1	1	0	0	1	1	1
P17	0	0	1	1	0	0	1	1	1	1
P18	1	1	0	0	0	0	1	1	0	0
P19	1	1	1	1	1	0	0	1	1	1
P20	0	1	1	1	1	1	1	1	1	1
P21	0	0	1	1	0	1	1	1	1	1

P22	1	0	0	0	0	1	0	1	1	0
P23	1	1	1	1	0	1	1	1	1	1
P24	1	1	1	1	1	0	1	1	1	1
P25	0	1	1	1	1	0	1	1	0	1
P26	1	1	1	1	1	0	1	1	0	1
P27	1	1	0	0	1	0	0	0	1	0
P28	1	0	1	0	0	0	1	1	1	0
P29	1	1	1	1	0	1	1	1	1	0
P30	1	0	1	1	0	1	1	1	1	0
P31	1	1	1	1	1	0	1	1	1	0
P32	1	1	1	0	0	1	1	1	1	1
P33	1	1	1	1	1	1	0	1	1	1
P34	1	1	1	1	0	0	1	1	1	0
P35	1	1	1	0	0	0	1	1	1	0
P36	1	1	0	0	0	0	1	1	1	0
P37	1	0	0	0	0	0	0	0	0	0
P38	1	1	1	0	0	1	1	1	1	1
P39	1	1	1	0	0	0	0	0	1	0
P40	1	0	1	1	1	0	1	1	1	1
P41	1	0	0	1	0	0	0	1	1	1
P42	1	0	1	1	0	0	1	1	1	1
P43	1	1	1	0	0	0	1	1	1	1
P44	1	0	1	1	1	1	1	1	1	1
P45	1	0	1	1	0	0	1	1	1	0
P46	1	0	1	0	0	0	0	1	1	0
P47	0	0	1	0	1	0	0	1	1	1
P48	1	0	1	1	0	0	1	1	1	0
P49	1	1	1	1	1	1	0	1	1	1
P50	1	1	1	1	1	1	1	1	1	0

P51	1	1	1	1	1	1	0	1	1	1
P52	1	0	1	1	1	0	0	0	0	0
P53	1	1	1	1	1	1	1	1	1	0
P54	0	1	1	1	1	1	1	1	1	1
P55	1	0	1	0	0	0	1	1	1	1
P56	1	0	1	0	1	0	1	0	1	1
P57	0	1	1	1	1	0	0	1	1	1
P58	1	1	1	1	1	0	0	1	1	1
P59	1	1	1	0	0	0	0	1	1	0
P60	1	1	1	1	1	0	0	1	1	1
P61	1	1	1	0	0	0	0	0	1	0
P62	1	1	1	1	0	0	0	1	1	0
P63	1	1	1	0	1	0	0	0	1	0
P64	1	1	1	1	0	0	1	1	1	0
P65	1	1	1	1	0	0	1	1	1	1
P66	1	1	1	1	1	0	0	1	1	1
P67	1	1	1	0	0	0	0	0	1	0
P68	1	1	1	1	1	0	0	1	1	1
P69	1	0	0	0	0	0	0	0	0	0
P70	1	0	1	0	0	0	1	1	1	0
P71	1	1	1	1	1	0	1	1	0	0
P72	1	1	1	1	1	0	0	1	1	1
P73	0	0	1	0	0	0	0	1	1	1
P74	1	1	1	1	1	0	1	1	0	0
P75	1	1	1	1	0	0	1	0	0	0
P76	1	0	1	1	0	0	0	1	1	1
P77	1	1	1	1	1	0	0	1	1	0
P78	1	0	1	0	1	1	1	1	1	1
P79	1	1	1	1	1	1	0	1	1	0

P80	1	1	1	1	1	0	0	1	1	1
P81	1	1	0	0	0	1	0	1	1	1
P82	1	0	0	0	1	0	0	1	0	0
P83	1	1	0	0	0	1	0	1	1	1
P84	1	1	1	0	0	1	0	1	1	0
P85	1	0	0	0	0	0	0	1	1	1
P86	1	1	1	1	1	0	0	1	1	0
P87	1	1	1	1	0	0	0	1	0	1
P88	1	1	1	1	1	1	0	1	1	0
P89	1	1	0	1	0	0	1	1	0	0
P90	1	1	1	0	1	0	1	1	1	0
P91	0	1	1	1	0	1	0	1	1	1
P92	1	0	1	1	0	0	0	1	1	1
P93	1	1	1	1	1	0	0	1	1	0
P94	0	1	1	0	0	0	1	1	1	1
P95	1	1	1	0	0	1	0	1	1	0
P96	1	0	0	0	0	0	0	1	1	1
P97	1	1	1	1	1	0	0	1	1	0
P98	0	1	1	1	0	1	0	0	0	1
P99	1	0	1	1	0	0	0	1	1	1
P100	1	1	1	1	1	0	0	1	1	0
P101	1	0	1	0	1	1	1	1	1	1
P102	1	1	1	1	1	1	0	1	1	0
P103	1	1	1	1	1	0	0	1	1	1
P104	1	1	0	0	0	1	0	1	1	1
P105	1	0	0	0	1	0	0	1	0	0
P106	1	1	0	0	0	1	0	1	1	1
P107	1	1	1	0	0	1	0	1	1	0
P108	1	1	1	1	1	0	0	1	1	0

P109	0	0	1	1	0	0	0	1	1	0
P110	1	1	0	0	0	1	0	1	1	1
P111	1	0	0	0	0	1	0	1	1	1
P112	0	1	1	1	0	0	0	1	1	0
P113	0	1	1	1	0	0	0	1	1	1
P114	0	1	1	1	0	1	0	0	0	1
P115	1	0	1	1	0	0	0	1	1	1
P116	1	1	1	1	1	0	0	1	1	0
P117	1	1	1	0	0	0	0	1	1	1
P118	1	1	1	0	0	0	0	0	1	0
P119	1	1	1	1	0	0	0	1	1	0
P120	1	1	1	0	1	0	0	0	1	0
P121	1	1	1	1	0	0	1	1	1	0
P122	1	1	1	1	0	0	1	1	1	1
P123	1	1	1	1	1	0	0	1	1	1
P124	0	1	1	1	0	0	0	1	1	0
P125	0	1	1	1	0	0	0	1	1	1
P126	1	1	0	0	0	1	0	1	1	1
P127	1	0	0	0	1	0	0	1	0	0
P128	1	1	0	0	0	1	0	1	1	1
P129	1	1	1	0	0	0	1	1	0	0
P130	1	0	1	0	0	1	0	1	1	0
P131	0	1	1	1	1	0	0	1	0	1
P132	1	0	1	1	1	0	1	1	1	1
P133	1	0	1	1	1	0	1	1	1	0
P134	1	0	1	1	1	0	1	1	0	0
P135	1	0	1	0	0	1	1	1	1	1
P136	1	0	1	1	0	1	1	1	1	1
P137	0	1	1	1	0	0	0	1	1	0

P138	1	1	1	0	0	0	1	0	1	0
P139	1	1	1	0	0	0	0	0	1	0
P140	1	1	1	1	0	0	0	1	1	0
P141	1	1	1	0	1	0	0	0	1	0
P142	1	1	0	0	0	0	0	1	1	1
P143	0	0	1	1	1	0	0	1	1	0
P144	1	1	1	0	0	0	0	1	1	1
P145	1	1	1	0	0	0	0	1	1	1
P146	1	1	0	1	0	0	0	1	1	1
P147	1	0	1	1	0	0	1	1	1	0
P148	1	0	1	0	0	0	0	1	1	0
P149	0	0	1	0	1	0	0	1	1	1
P150	1	0	1	1	0	0	1	1	1	0
P151	1	1	1	1	1	1	0	1	1	1
P152	1	1	1	1	1	1	1	1	1	0
P153	1	1	1	1	1	1	0	1	1	1
P154	1	0	1	1	1	0	0	0	0	0
P155	1	1	1	1	1	1	1	1	1	0
P156	1	1	1	0	0	0	0	0	1	0
P157	1	1	1	1	0	0	0	1	1	0
P158	1	1	1	0	1	0	0	0	1	0
P159	1	1	1	1	0	0	1	1	1	0
P160	1	1	1	1	0	0	1	1	1	1
P161	1	1	1	1	1	0	0	1	1	1
P162	0	1	1	1	0	0	0	1	1	0
P163	1	1	1	0	0	0	0	0	1	0
P164	1	1	1	1	1	0	0	1	1	1
P165	1	0	0	0	0	0	0	0	0	0
P166	1	0	0	0	1	1	1	1	0	0

P167	1	0	0	0	1	1	0	1	1	0
P168	0	1	1	1	1	1	1	1	1	1
P169	1	0	1	0	0	0	1	1	1	1
P170	1	0	1	0	1	0	1	0	1	1
P171	0	1	1	1	1	0	0	1	1	1
P172	1	1	1	1	1	0	0	1	1	1
P173	1	1	1	0	0	0	0	1	1	0
P174	1	1	1	1	1	0	0	1	1	1
P175	1	1	1	0	0	0	0	0	1	0
P176	1	1	1	1	0	0	0	1	1	0
P177	1	1	1	0	1	0	0	0	1	0
P178	1	1	1	1	0	0	1	1	1	0
P179	1	1	1	1	0	0	1	1	1	1
P180	1	1	1	1	1	0	0	1	1	1
P181	1	1	1	0	0	0	0	0	1	0
P182	1	1	1	1	1	0	0	1	1	1
P183	1	0	0	0	0	0	0	0	0	0
P184	1	1	0	1	0	0	1	1	0	0
P185	1	1	1	0	1	0	1	1	1	0
P186	1	1	1	0	1	1	0	1	1	0
P187	1	1	1	1	1	0	1	1	1	0
P188	1	0	1	1	0	0	0	1	0	0
P189	1	1	1	1	0	0	0	1	1	0
P190	1	1	1	1	0	0	1	1	1	1
P191	1	0	0	0	0	1	1	1	1	0
P192	1	0	0	0	0	0	1	1	1	0
P193	1	1	1	0	0	1	1	1	1	0
P194	1	1	1	1	0	1	1	1	1	1
P195	1	1	0	1	0	0	1	1	0	0

P196	1	1	1	0	1	0	1	1	1	0
P197	1	1	1	0	1	1	0	1	1	0
P198	1	1	1	1	1	0	1	1	1	0
P199	1	0	1	1	0	0	0	1	0	0
P200	1	1	1	1	0	0	0	1	1	0
P201	1	1	1	1	0	0	1	1	1	1
P202	1	0	0	0	0	1	1	1	1	0
P203	1	0	0	0	0	0	1	1	1	0
P204	1	1	1	0	0	1	1	1	1	0
P205	1	1	1	1	0	1	1	1	1	1
P206	1	0	1	0	0	0	0	1	1	0
P207	1	0	1	0	0	0	0	1	1	0
P208	1	0	0	1	0	1	1	1	1	1
P209	1	0	0	1	0	1	1	1	1	1
P210	1	0	0	1	0	1	1	1	1	1
P211	1	1	1	0	1	0	0	0	1	0
P212	1	1	1	1	0	0	1	1	1	0
P213	1	1	1	1	0	0	1	1	1	1
P214	1	0	1	0	0	0	0	1	1	0
P215	1	1	1	1	0	0	1	1	1	0
P216	1	1	1	1	1	1	0	1	1	0
P217	1	1	1	1	0	0	1	1	1	0
P218	1	1	1	1	0	0	1	1	1	1
P219	1	0	0	0	0	1	0	1	1	1
P220	1	0	1	0	0	0	0	1	1	0
P221	1	0	1	1	1	1	0	0	1	0
P222	1	0	0	0	0	1	0	1	1	1
P223	1	0	1	0	0	0	0	1	1	0
P224	1	0	0	1	1	0	0	0	1	0

P225	1	1	1	0	0	0	1	1	1	0
P226	0	0	1	0	0	1	0	1	0	0
P227	1	0	0	1	0	1	1	1	1	0
P228	1	0	1	0	1	1	1	1	1	0
P229	1	0	1	0	0	1	0	1	1	0
P230	1	0	1	0	1	1	1	1	1	0
P231	1	0	1	0	0	1	0	1	1	0
P232	1	0	1	0	0	0	0	1	1	0
P233	1	0	0	1	0	1	1	1	1	1
P234	1	0	0	1	0	1	1	1	1	1
P235	1	0	0	1	0	1	1	1	1	1
P236	1	1	1	0	1	0	0	0	1	0
P237	1	1	1	1	0	0	1	1	1	1
P238	1	0	1	0	0	0	0	1	1	0
P239	1	1	1	1	0	0	1	1	1	0
P240	1	1	1	1	1	1	0	1	1	0
P241	1	1	1	1	0	0	1	1	1	0
P242	1	1	1	1	1	1	0	1	1	0
P243	1	1	1	1	0	0	1	1	1	0
P244	1	1	1	1	0	0	1	1	1	1
P245	1	1	1	1	1	0	0	1	1	1
P246	1	1	0	0	0	1	0	1	1	1
P247	1	1	0	0	0	1	0	1	1	0
P248	1	1	0	0	0	1	0	1	1	1
P249	1	0	1	0	0	1	0	1	1	0
P250	1	0	1	0	0	1	0	1	1	0
P251	1	1	1	1	0	0	1	1	1	0
P252	1	1	1	1	0	0	1	1	1	1
P253	1	1	1	1	1	0	0	1	1	1

P254	1	1	1	0	0	0	0	1	1	0
P255	1	1	1	1	1	0	0	1	1	1
P256	1	1	1	0	0	0	0	0	1	0
P257	1	1	1	1	0	0	0	1	1	0
P258	1	1	1	0	1	0	0	0	1	0
P259	1	1	1	1	0	0	1	1	1	0
P260	1	1	1	1	0	0	1	1	1	1
P261	1	1	1	1	1	0	0	1	1	1
P262	1	0	1	0	0	1	0	1	1	0
P263	1	0	1	0	0	1	0	1	1	0
P264	1	1	1	1	1	1	0	1	1	1
P265	0	1	0	0	0	1	1	1	1	0
P266	1	1	1	1	1	1	0	1	1	0
P267	1	1	1	0	0	0	1	1	1	0
P268	0	0	1	0	0	1	0	1	0	0
P269	1	0	0	1	0	0	1	1	1	1
P270	1	1	1	1	1	1	0	0	1	0
P271	1	0	0	1	0	0	0	0	0	1
P272	1	1	0	0	1	1	1	0	1	1
P273	1	1	1	1	1	0	0	1	0	0
P274	1	0	0	1	1	1	0	1	1	1
P275	1	0	1	1	0	1	0	0	0	0
P276	1	1	1	1	1	1	0	1	1	1
P277	0	1	0	0	0	1	1	1	1	0
P278	1	1	0	1	1	1	0	1	1	0
P279	1	1	0	0	0	1	0	1	1	1
P280	1	0	0	0	0	1	0	1	1	1
P281	1	0	1	0	1	1	0	1	1	1
P282	1	1	0	0	0	1	0	1	1	1

P283	1	1	0	0	0	1	0	1	1	0
P284	1	1	0	0	0	1	0	1	1	1
P285	1	0	1	0	0	1	0	1	1	0
P286	1	0	1	0	0	1	0	1	1	0
P287	1	0	1	0	0	1	0	1	1	0
P288	1	1	1	1	1	1	0	1	1	1
P289	0	1	0	0	0	1	1	1	1	0
P290	1	1	1	1	1	1	0	1	1	0
P291	1	1	1	0	0	0	1	1	1	0
P292	0	0	1	0	0	1	0	1	0	0
P293	1	0	0	1	0	0	1	1	1	1
P294	1	1	1	1	1	1	0	0	1	0
P295	1	0	0	1	0	0	0	0	0	1
P296	1	1	0	0	1	1	1	0	1	1
P297	1	1	1	1	1	0	0	1	0	0
P298	1	0	0	1	1	1	0	1	1	1
P299	1	0	1	1	0	1	0	0	0	0
P300	1	1	1	1	1	1	0	1	0	0
P301	1	1	0	1	0	1	0	1	1	0
P302	1	1	0	1	0	1	0	0	0	0
P303	1	1	0	1	0	1	0	1	1	0
P304	1	0	0	1	0	1	0	1	1	0
P305	1	1	1	1	0	0	0	1	1	0
P306	1	0	0	1	0	1	0	1	1	0
P307	1	0	0	0	1	1	0	1	1	1
P308	1	0	1	0	0	0	0	1	1	1
P309	1	0	1	0	0	0	0	0	1	1
P310	1	0	1	0	0	1	0	1	1	0
P311	0	1	0	1	0	0	0	1	1	0

P312	1	1	1	1	1	0	0	1	1	0
P313	1	0	1	0	1	1	1	1	1	1
P314	1	1	1	1	1	1	0	1	1	0
P315	1	1	1	1	1	0	0	1	1	1
P316	1	1	0	0	0	1	0	1	1	1
P317	1	0	0	0	1	0	0	1	0	0
P318	1	1	0	0	0	1	0	1	1	1
P319	1	1	1	0	0	1	0	1	1	0
P320	1	0	0	0	0	0	0	1	1	1
P321	1	1	1	1	1	0	0	1	1	0
P322	1	1	1	1	0	0	0	1	0	1
P323	1	1	1	1	1	1	0	1	1	0
P324	1	1	0	1	0	0	1	1	0	0
P325	1	1	1	0	1	0	1	1	1	0
P326	1	1	1	0	1	1	0	1	1	0
P327	1	1	1	1	1	0	1	1	1	0
P328	1	0	1	1	0	0	0	1	0	0
P329	1	1	1	1	0	0	0	1	1	0
P330	1	1	1	1	0	0	1	1	1	1
P331	1	0	0	0	0	1	1	1	1	0
P332	1	0	0	0	0	0	1	1	1	0
P333	1	1	1	0	0	1	1	1	1	0
P334	1	1	1	1	0	1	1	1	1	1
P335	1	1	1	0	0	0	1	1	1	0
P336	1	1	1	1	0	1	1	1	1	1
P337	1	1	1	1	0	1	1	1	1	1
P338	1	0	0	1	0	1	0	1	1	0
P339	1	1	1	1	0	0	0	1	1	0
P340	1	0	1	0	0	0	0	1	1	0

P341	1	1	1	1	0	0	1	1	1	0
P342	1	1	1	1	1	1	0	1	1	0
P343	1	0	1	1	0	1	0	0	0	0
P344	1	1	1	1	1	1	0	1	0	0
P345	1	1	0	1	0	1	0	1	1	0
P346	1	1	0	1	0	1	0	0	0	0
P347	1	1	0	1	0	1	0	1	1	0
P348	1	0	0	1	0	1	0	1	1	0
P349	1	1	1	1	0	0	0	1	1	0
P350	1	0	0	1	0	1	0	1	1	0
P351	1	0	0	0	1	1	0	1	1	1
P352	1	0	1	0	0	0	0	1	1	1
P353	1	1	1	1	0	1	1	1	1	1
P354	1	0	0	1	0	1	0	1	1	0
P355	1	1	1	1	0	0	0	1	1	0
P356	1	0	1	0	0	0	0	1	1	0
P357	1	1	1	1	0	0	1	1	1	0
P358	1	1	1	1	0	0	0	1	1	0
P359	1	0	1	0	0	0	0	1	1	0
P360	1	1	1	1	0	0	1	1	1	0
P361	1	1	1	1	1	1	0	1	1	0
P362	1	0	1	1	0	1	0	0	0	0
P363	1	1	1	1	1	1	0	1	0	0
P364	1	1	0	1	0	1	0	1	1	0
P365	1	1	1	1	0	0	0	1	1	0

Attitude Scoring Scale:

Patient	At_1	At_2	At_3	At_4	At_5	At_6	At_7	At_8	At_9	At_10
P1	4	5	3	4	4	2	3	4	4	4
P2	1	1	4	4	4	4	3	3	2	2
P3	2	3	4	4	2	4	3	2	3	3
P4	2	3	1	5	2	2	4	2	4	2
P5	2	2	4	4	2	4	2	2	4	2
P6	1	3	3	3	4	4	2	2	5	3
P7	2	3	3	2	3	2	2	4	4	4
P8	1	1	3	4	2	4	3	3	4	2
P9	1	2	2	4	2	4	2	3	3	4
P10	2	5	5	5	5	3	3	2	4	1
P11	1	2	4	3	4	4	2	4	2	4
P12	2	4	3	2	4	2	4	2	4	4
P13	2	2	4	3	4	4	4	4	4	4
P14	1	2	2	5	2	4	4	2	3	3
P15	3	4	4	2	4	2	2	4	2	3
P16	2	2	4	2	5	2	4	4	4	4
P17	3	1	1	1	1	4	4	2	2	3
P18	2	2	4	4	2	4	2	2	2	2
P19	2	2	4	4	4	4	4	4	4	4
P20	1	2	4	2	4	3	3	2	2	3
P21	2	2	4	4	2	2	4	2	4	3
P22	2	1	4	3	4	2	4	3	3	3
P23	1	2	4	4	4	4	4	4	4	4
P24	1	4	2	5	4	2	4	4	4	2
P25	2	2	2	4	2	4	2	3	3	2
P26	2	5	5	5	5	3	3	3	3	5

P27	2	2	2	4	3	2	2	4	3	3
P28	2	2	2	4	3	2	4	4	3	3
P29	5	2	4	4	4	3	4	4	4	3
P30	1	2	2	5	4	3	3	3	3	4
P31	1	2	2	4	3	3	3	2	4	3
P32	1	1	1	4	3	2	2	2	4	3
P33	3	5	5	5	5	2	5	2	2	5
P34	2	3	1	4	4	3	3	5	2	3
P35	3	1	3	4	4	2	4	4	3	3
P36	2	2	4	4	2	4	2	2	4	2
P37	2	2	2	4	2	4	4	4	4	2
P38	2	1	4	4	2	4	2	4	4	2
P39	1	4	4	5	5	4	4	4	4	4
P40	1	4	4	3	2	4	2	3	3	3
P41	1	2	2	4	3	3	2	2	3	2
P42	2	2	2	4	2	4	2	4	4	2
P43	2	2	2	2	4	2	2	4	4	2
P44	2	2	3	4	5	3	5	3	2	5
P45	2	2	2	5	5	4	2	4	4	2
P46	1	2	2	5	1	2	4	3	3	2
P47	2	2	4	5	4	4	4	3	2	3
P48	1	2	4	4	4	4	2	4	3	3
P49	2	4	3	3	4	2	3	2	4	5
P50	2	2	4	4	2	2	2	4	4	4
P51	1	2	4	5	4	3	4	4	4	4
P52	1	5	3	5	5	2	3	2	2	5
P53	4	4	3	2	4	4	4	4	2	2
P54	3	5	5	5	5	2	4	4	4	5
P55	2	2	4	4	4	4	4	4	4	2

P56	2	5	5	5	5	2	3	1	1	1
P57	2	5	5	5	5	3	2	2	3	5
P58	2	5	5	5	2	3	2	3	1	5
P59	1	4	4	4	2	4	5	4	4	2
P60	2	5	5	5	4	4	3	1	2	5
P61	2	3	2	2	4	4	3	3	2	3
P62	2	5	5	2	3	4	3	2	2	2
P63	1	2	4	4	4	4	4	4	4	2
P64	2	4	4	4	4	4	2	4	4	4
P65	1	4	4	5	3	3	3	4	4	3
P66	2	2	4	4	4	4	4	4	4	4
P67	1	5	3	4	4	1	5	2	2	3
P68	2	4	4	1	4	2	4	4	4	3
P69	1	4	5	5	5	4	4	4	4	4
P70	2	4	2	4	4	4	2	4	2	2
P71	1	4	5	5	4	3	5	1	1	5
P72	1	2	4	4	4	2	2	3	3	3
P73	1	2	4	4	4	4	4	4	4	4
P74	4	2	4	4	4	3	5	4	4	3
P75	4	3	4	4	2	1	3	3	3	4
P76	1	2	2	2	4	3	4	2	2	4
P77	1	2	2	5	2	4	4	2	3	3
P78	1	2	4	4	4	4	4	4	4	4
P79	1	4	2	5	4	2	4	4	4	2
P80	1	4	5	5	5	4	4	4	4	4
P81	1	4	5	5	5	4	4	4	4	4
P82	1	2	2	5	2	4	4	2	3	3
P83	2	2	4	4	4	4	4	4	4	4
P84	1	2	4	2	4	3	3	2	2	3

P85	2	2	4	4	2	2	4	2	4	3
P86	2	1	4	3	4	2	4	3	3	3
P87	1	2	2	5	2	4	4	2	3	3
P88	1	2	2	5	2	4	4	2	3	3
P89	1	3	4	2	2	4	5	1	1	3
P90	2	3	1	5	2	2	4	2	4	2
P91	2	2	4	4	2	4	2	2	4	2
P92	1	4	5	5	5	4	4	4	4	4
P93	1	2	4	4	4	4	4	4	4	4
P94	1	4	2	5	4	2	4	4	4	2
P95	2	2	4	4	4	4	4	4	4	4
P96	1	2	4	2	4	3	3	2	2	3
P97	2	2	4	4	2	2	4	2	4	3
P98	2	1	4	3	4	2	4	3	3	3
P99	2	3	1	5	2	2	4	2	4	2
P100	2	2	4	4	2	4	2	2	4	2
P101	2	2	4	4	2	4	2	2	4	2
P102	2	2	2	4	2	4	4	4	4	2
P103	2	1	4	4	2	4	2	4	4	2
P104	2	3	1	5	2	2	4	2	4	2
P105	2	2	4	4	2	4	2	2	4	2
P106	1	2	4	4	4	4	4	4	4	4
P107	1	4	2	5	4	2	4	4	4	2
P108	2	2	2	4	2	4	4	4	4	2
P109	2	1	4	4	2	4	2	4	4	2
P110	1	4	5	5	5	4	4	4	4	4
P111	1	4	5	5	5	4	4	4	4	4
P112	1	3	4	2	2	4	5	1	1	3
P113	1	3	4	2	2	4	5	1	1	3

P114	1	4	5	5	5	4	4	4	4	4
P115	1	2	2	5	2	4	4	2	3	3
P116	1	2	2	5	2	4	4	2	3	3
P117	1	3	4	2	2	4	5	1	1	3
P118	1	2	4	4	4	4	4	4	4	4
P119	1	4	2	5	4	2	4	4	4	2
P120	2	3	1	5	2	2	4	2	4	2
P121	2	2	4	4	2	4	2	2	4	2
P122	3	5	5	5	5	2	5	2	2	5
P123	1	3	4	2	2	4	5	1	1	3
P124	2	2	4	4	2	4	2	2	4	2
P125	2	2	2	4	2	4	4	4	4	2
P126	2	1	4	4	2	4	2	4	4	2
P127	1	2	2	5	2	4	4	2	3	3
P128	3	5	5	5	5	2	5	2	2	5
P129	1	3	4	2	2	4	5	1	1	3
P130	2	2	4	4	2	4	2	2	4	2
P131	2	2	2	4	2	4	4	4	4	2
P132	2	1	4	4	2	4	2	4	4	2
P133	1	3	4	2	2	4	5	1	1	3
P134	2	3	1	5	2	2	4	2	4	2
P135	2	2	4	4	2	4	2	2	4	2
P136	1	2	2	5	2	4	4	2	3	3
P137	1	2	4	4	4	4	4	4	4	4
P138	1	4	2	5	4	2	4	4	4	2
P139	2	2	4	4	4	4	4	4	4	4
P140	1	2	4	2	4	3	3	2	2	3
P141	2	2	4	4	2	2	4	2	4	3
P142	2	1	4	3	4	2	4	3	3	3

P143	1	3	4	2	2	4	5	1	1	3
P144	3	5	5	5	5	2	5	2	2	5
P145	1	3	4	2	2	4	5	1	1	3
P146	1	3	4	2	2	4	5	1	1	3
P147	1	3	4	2	2	4	5	1	1	3
P148	2	3	1	5	2	2	4	2	4	2
P149	2	2	4	4	2	4	2	2	4	2
P150	1	3	4	2	2	4	5	1	1	3
P151	3	5	5	5	5	2	5	2	2	5
P152	2	2	4	4	2	4	2	2	4	2
P153	2	2	2	4	2	4	4	4	4	2
P154	2	1	4	4	2	4	2	4	4	2
P155	1	2	4	4	4	4	4	4	4	4
P156	1	4	2	5	4	2	4	4	4	2
P157	1	1	1	4	3	2	2	2	4	3
P158	3	5	5	5	5	2	5	2	2	5
P159	2	3	1	4	4	3	3	5	2	3
P160	3	1	3	4	4	2	4	4	3	3
P161	1	2	2	1	5	1	1	2	3	3
P162	1	3	1	2	2	3	5	1	4	2
P163	2	5	4	4	4	2	2	4	5	1
P164	2	4	1	3	5	5	1	1	2	3
P165	1	5	1	5	5	2	2	2	2	2
P166	1	4	4	5	5	1	5	2	2	3
P167	2	3	3	3	2	2	2	5	1	4
P168	1	2	2	5	1	2	4	3	3	2
P169	2	2	4	5	4	4	4	3	2	3
P170	1	2	4	4	4	4	2	4	3	3
P171	1	2	4	4	4	4	4	4	4	4

P172	1	4	2	5	4	2	4	4	4	2
P173	2	2	4	4	4	4	4	4	4	4
P174	1	2	4	2	4	3	3	2	2	3
P175	2	2	4	4	2	2	4	2	4	3
P176	2	1	4	3	4	2	4	3	3	3
P177	1	2	2	5	1	2	4	3	3	2
P178	2	2	4	5	4	4	4	3	2	3
P179	1	2	4	4	4	4	2	4	3	3
P180	3	5	5	5	5	2	5	2	2	5
P181	2	2	4	4	2	4	2	2	4	2
P182	2	2	2	4	2	4	4	4	4	2
P183	2	1	4	4	2	4	2	4	4	2
P184	2	3	1	5	2	2	4	2	4	2
P185	2	2	4	4	2	4	2	2	4	2
P186	1	2	2	5	1	2	4	3	3	2
P187	2	2	4	5	4	4	4	3	2	3
P188	1	2	4	4	4	4	2	4	3	3
P189	2	2	4	4	2	4	2	2	4	2
P190	2	2	2	4	2	4	4	4	4	2
P191	2	1	4	4	2	4	2	4	4	2
P192	2	3	1	5	2	2	4	2	4	2
P193	2	2	4	4	2	4	2	2	4	2
P194	2	2	4	4	4	4	4	4	4	4
P195	1	2	4	2	4	3	3	2	2	3
P196	2	2	4	4	2	2	4	2	4	3
P197	2	1	4	3	4	2	4	3	3	3
P198	3	5	5	5	5	2	5	2	2	5
P199	3	5	5	5	5	2	5	2	2	5
P200	3	5	5	5	5	2	5	2	2	5

P201	1	2	2	5	1	2	4	3	3	2
P202	2	2	4	5	4	4	4	3	2	3
P203	1	2	4	4	4	4	2	4	3	3
P204	2	2	4	2	1	3	2	2	1	3
P205	2	2	4	2	1	3	2	2	1	3
P206	2	3	1	4	4	3	3	5	2	3
P207	2	2	4	2	1	3	2	2	1	3
P208	2	2	4	2	1	3	2	2	1	3
P209	2	2	4	2	1	3	2	2	1	3
P210	2	2	4	2	1	3	2	2	1	3
P211	2	3	1	4	4	3	3	5	2	3
P212	3	5	5	5	5	2	5	2	2	5
P213	2	5	5	5	5	3	3	2	4	1
P214	2	2	4	4	4	4	4	4	4	4
P215	1	2	4	2	4	3	3	2	2	3
P216	2	2	4	4	2	2	4	2	4	3
P217	2	1	4	3	4	2	4	3	3	3
P218	1	1	1	4	3	2	2	2	4	3
P219	3	5	5	5	5	2	5	2	2	5
P220	2	3	1	4	4	3	3	5	2	3
P221	3	1	3	4	4	2	4	4	3	3
P222	2	2	4	2	1	3	2	2	1	3
P223	2	3	1	4	4	3	3	5	2	3
P224	2	2	4	2	1	3	2	2	1	3
P225	3	5	5	5	5	2	5	2	2	5
P226	3	5	5	5	5	2	5	2	2	5
P227	2	3	1	4	4	3	3	5	2	3
P228	1	2	2	5	1	2	4	3	3	2
P229	2	2	4	5	4	4	4	3	2	3

P230	1	2	4	4	4	4	2	4	3	3
P231	2	3	1	4	4	3	3	5	2	3
P232	2	2	4	4	4	4	4	4	4	4
P233	1	2	4	2	4	3	3	2	2	3
P234	2	2	4	4	2	2	4	2	4	3
P235	2	1	4	3	4	2	4	3	3	3
P236	1	1	1	4	3	2	2	2	4	3
P237	3	5	5	5	5	2	5	2	2	5
P238	2	3	1	4	4	3	3	5	2	3
P239	3	1	3	4	4	2	4	4	3	3
P240	2	3	1	4	4	3	3	5	2	3
P241	1	2	2	5	1	2	4	3	3	2
P242	2	2	4	5	4	4	4	3	2	3
P243	1	2	4	4	4	4	2	4	3	3
P244	2	2	4	4	4	4	4	4	4	4
P245	1	2	4	2	4	3	3	2	2	3
P246	2	2	4	4	2	2	4	2	4	3
P247	2	1	4	3	4	2	4	3	3	3
P248	4	5	3	4	4	2	3	4	4	4
P249	4	5	3	4	4	2	3	4	4	4
P250	2	2	4	4	2	4	2	2	4	2
P251	2	2	2	4	2	4	4	4	4	2
P252	2	1	4	4	2	4	2	4	4	2
P253	1	1	1	4	3	2	2	2	4	3
P254	3	5	5	5	5	2	5	2	2	5
P255	2	3	1	4	4	3	3	5	2	3
P256	3	1	3	4	4	2	4	4	3	3
P257	2	2	4	5	4	4	4	3	2	3
P258	1	2	4	4	4	4	2	4	3	3

P259	2	2	4	4	4	4	4	4	4	4
P260	1	2	4	2	4	3	3	2	2	3
P261	2	2	4	4	2	2	4	2	4	3
P262	2	1	4	3	4	2	4	3	3	3
P263	4	5	3	4	4	2	3	4	4	4
P264	2	2	4	4	2	4	2	2	4	2
P265	2	2	2	4	2	4	4	4	4	2
P266	2	1	4	4	2	4	2	4	4	2
P267	4	5	3	4	4	2	3	4	4	4
P268	4	5	3	4	4	2	3	4	4	4
P269	1	2	2	5	1	2	4	3	3	2
P270	2	2	4	5	4	4	4	3	2	3
P271	1	2	4	4	4	4	2	4	3	3
P272	1	1	1	4	3	2	2	2	4	3
P273	3	5	5	5	5	2	5	2	2	5
P274	2	3	1	4	4	3	3	5	2	3
P275	3	1	3	4	4	2	4	4	3	3
P276	1	2	4	2	4	3	3	2	2	3
P277	2	2	4	4	2	2	4	2	4	3
P278	2	1	4	3	4	2	4	3	3	3
P279	1	2	2	5	1	2	4	3	3	2
P280	2	2	4	5	4	4	4	3	2	3
P281	1	2	4	4	4	4	2	4	3	3
P282	2	2	4	2	1	3	2	2	1	3
P283	2	2	4	2	1	3	2	2	1	3
P284	2	2	4	2	1	3	2	2	1	3
P285	1	1	1	4	3	2	2	2	4	3
P286	3	5	5	5	5	2	5	2	2	5
P287	2	3	1	4	4	3	3	5	2	3

P288	3	1	3	4	4	2	4	4	3	3
P289	2	3	1	4	4	3	3	5	2	3
P290	1	1	1	4	3	2	2	2	4	3
P291	3	5	5	5	5	2	5	2	2	5
P292	2	3	1	4	4	3	3	5	2	3
P293	3	1	3	4	4	2	4	4	3	3
P294	2	3	1	4	4	3	3	5	2	3
P295	1	3	4	2	2	4	5	1	1	3
P296	1	2	2	5	1	2	4	3	3	2
P297	2	2	4	5	4	4	4	3	2	3
P298	1	2	4	4	4	4	2	4	3	3
P299	4	5	3	4	4	2	3	4	4	4
P300	2	3	2	4	2	3	3	2	2	2
P301	2	5	5	5	5	3	5	2	4	5
P302	2	5	5	5	5	3	5	2	4	5
P303	1	5	5	5	5	3	5	2	1	3
P304	2	3	3	2	4	2	3	2	1	2
P305	2	3	3	2	4	3	4	2	1	3
P306	2	3	3	2	4	3	4	2	1	3
P307	1	1	1	4	3	2	2	2	4	3
P308	3	5	5	5	5	2	5	2	2	5
P309	2	3	1	4	4	3	3	5	2	3
P310	3	1	3	4	4	2	4	4	3	3
P311	2	3	3	2	4	3	4	2	1	3
P312	4	5	3	4	4	2	3	4	4	4
P313	1	2	2	5	1	2	4	3	3	2
P314	2	2	4	5	4	4	4	3	2	3
P315	1	2	4	4	4	4	2	4	3	3
P316	4	5	3	4	4	2	3	4	4	4

P317	3	5	5	5	5	2	5	2	2	5
P318	4	5	3	4	4	2	3	4	4	4
P319	2	3	3	2	4	3	4	2	1	3
P320	2	3	3	2	4	3	4	2	1	3
P321	2	3	3	2	4	3	4	2	1	3
P322	2	3	3	2	4	3	4	2	1	3
P323	1	1	1	4	3	2	2	2	4	3
P324	3	5	5	5	5	2	5	2	2	5
P325	2	3	1	4	4	3	3	5	2	3
P326	3	1	3	4	4	2	4	4	3	3
P327	2	3	3	2	4	3	4	2	1	3
P328	4	5	3	4	4	2	3	4	4	4
P329	2	3	3	2	4	3	4	2	1	3
P330	2	3	3	2	4	3	4	2	1	3
P331	2	3	3	2	4	3	4	2	1	3
P332	2	3	3	2	4	3	4	2	1	3
P333	2	3	3	2	4	3	4	2	1	3
P334	4	5	3	4	4	2	3	4	4	4
P335	1	1	1	4	3	2	2	2	4	3
P336	3	5	5	5	5	2	5	2	2	5
P337	2	3	1	4	4	3	3	5	2	3
P338	3	1	3	4	4	2	4	4	3	3
P339	2	3	3	2	4	3	4	2	1	3
P340	2	3	3	2	4	3	4	2	1	3
P341	1	1	1	4	3	2	2	2	4	3
P342	3	5	5	5	5	2	5	2	2	5
P343	2	3	1	4	4	3	3	5	2	3
P344	3	1	3	4	4	2	4	4	3	3
P345	2	3	3	2	4	3	4	2	1	3

P346	1	1	1	4	3	2	2	2	4	3
P347	3	5	5	5	5	2	5	2	2	5
P348	2	3	1	4	4	3	3	5	2	3
P349	3	1	3	4	4	2	4	4	3	3
P350	4	5	3	4	4	2	3	4	4	4
P351	2	3	3	2	4	3	4	2	1	3
P352	4	5	3	4	4	2	3	4	4	4
P353	1	2	2	5	1	2	4	3	3	2
P354	2	2	4	5	4	4	4	3	2	3
P355	1	2	4	4	4	4	2	4	3	3
P356	1	1	1	4	3	2	2	2	4	3
P357	3	5	5	5	5	2	5	2	2	5
P358	2	3	1	4	4	3	3	5	2	3
P359	3	1	3	4	4	2	4	4	3	3
P360	2	3	1	4	4	3	3	5	2	3
P361	3	1	3	4	4	2	4	4	3	3
P362	2	3	3	2	4	3	4	2	1	3
P363	4	5	3	4	4	2	3	4	4	4
P364	3	5	5	5	5	2	5	2	2	5
P365	3	1	3	4	4	2	4	4	3	3